

Figure 1 A

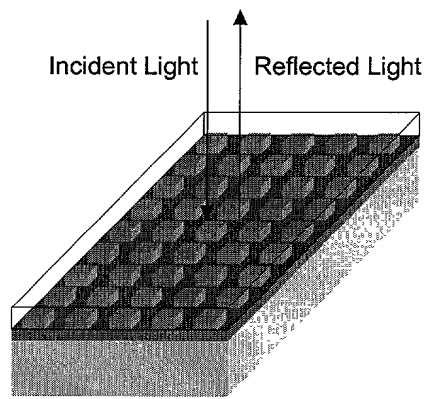


Figure 1 B

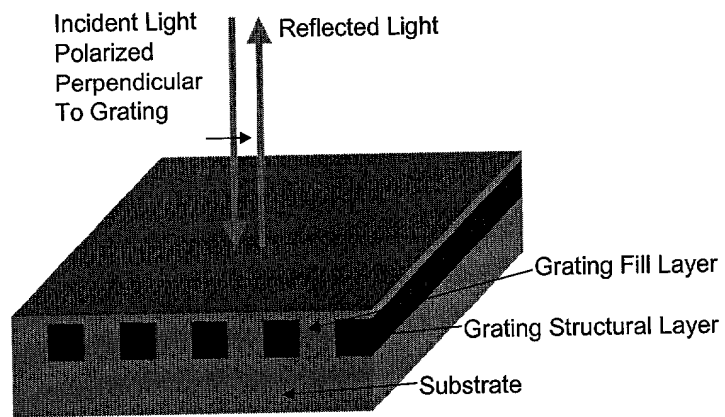


Figure 2.

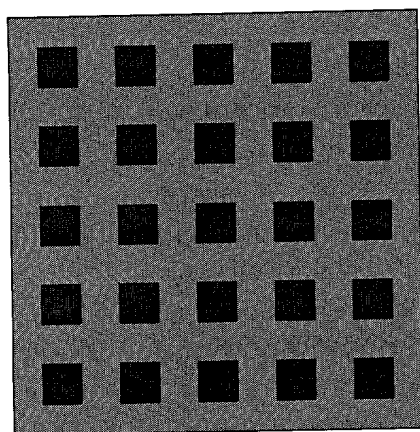


Figure 3A

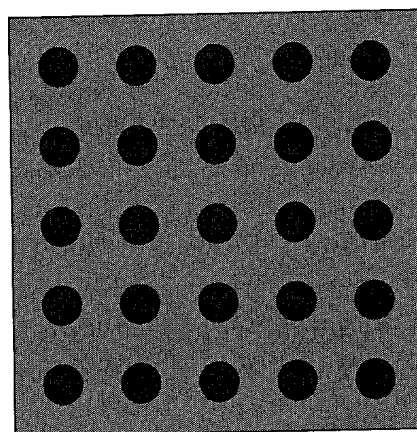


Figure 3B

Figure 3

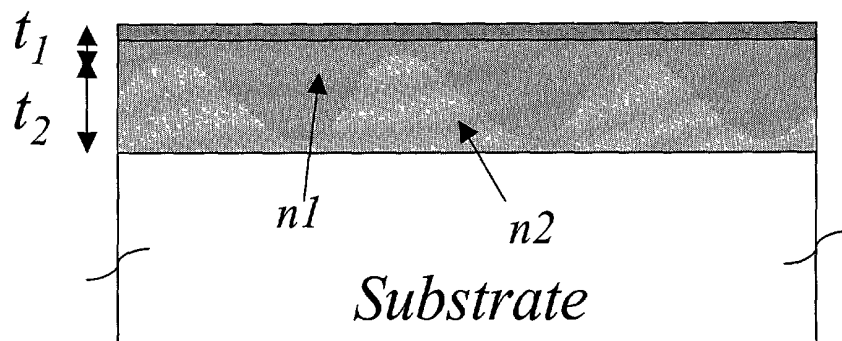


Figure 4.

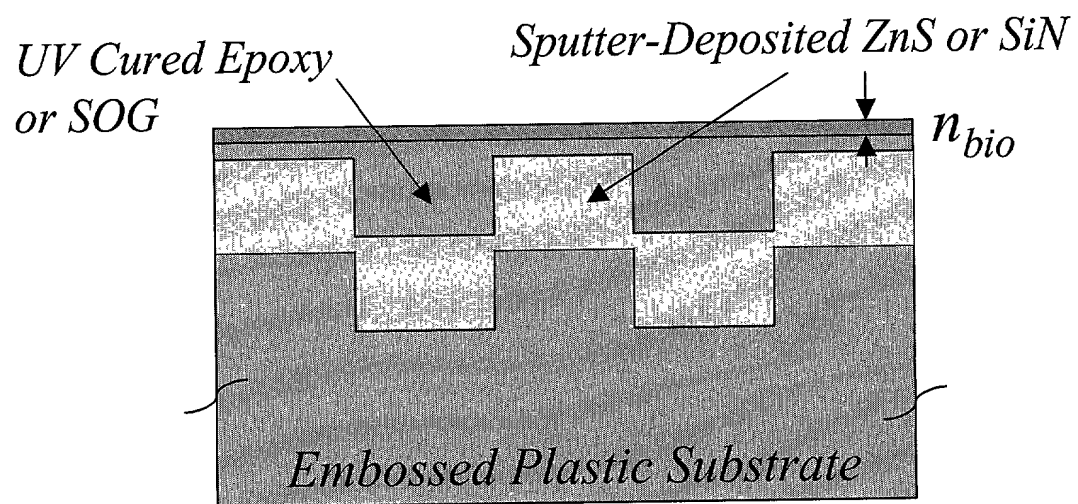
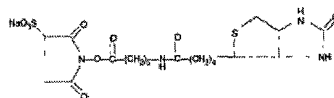


Figure 5.

## Amine

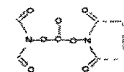
➤ Sulfo-succinimidyl-6-(biotinamido)hexanoate (Sulfo-NHS-LC-Biotin)

• Streptavidin/avidin then biotinylated molecule



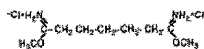
➤ N,N'-disuccinimidyl carbonate (DSC)

• -NH<sub>2</sub> non-cleavable



➤ Dimethyl pimelimidate (DMP)

• -NH<sub>2</sub> non-cleavable



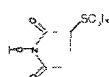
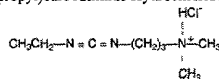
➤ Dimethyl 3,3'-dithiobispropionimidate (DTBP)

• -NH<sub>2</sub> cleavable



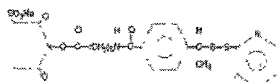
➤ 1-Ethyl-3-(3-Dimethylaminopropyl)carbodiimide Hydrochloride (EDC) & N-Hydroxysulfosuccinimide (Sulfo-NHS)

• -COOH



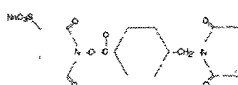
➤ Sulfo-succinimidyl 6-[a-methyl-a-(2-pyridyl-dithio)toluamido]hexanoate (Sulfo-LC-SMPT)

• -SH, cleavable



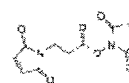
➤ Sulfo-succinimidyl 4-(N-maleimidomethyl)cyclohexane-1-carboxylate (Sulfo-SMCC)

• -SH, non-cleavable



➤ N-(8-Maleimidopropoxy) succinimide ester (BMPS)

• -SH, non-cleavable



## Aldehyde

➤ Directly with aldehyde or first amino then aldehyde

• -NH<sub>2</sub>

## Ni(II)

➤ Using nitrilotriacetic acid (NTA) group, which forms a chelate with Ni(II)

• His-tagged molecules

Figure 6

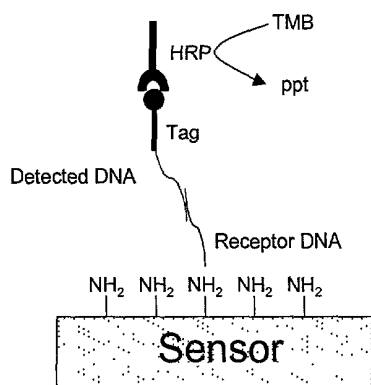


Figure 7A

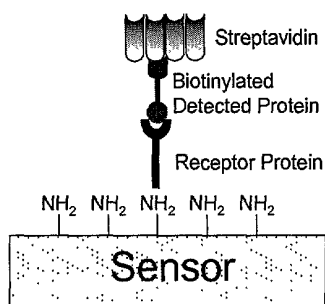


Figure 7B

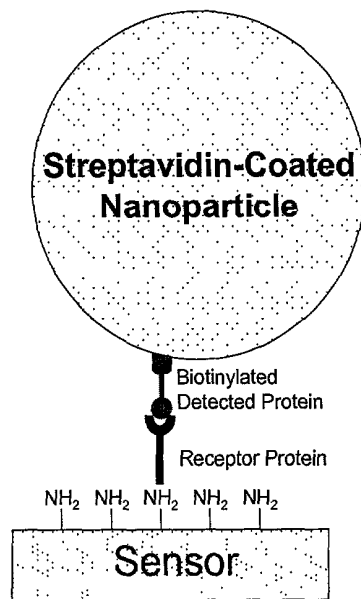


Figure 7C

Figure 7

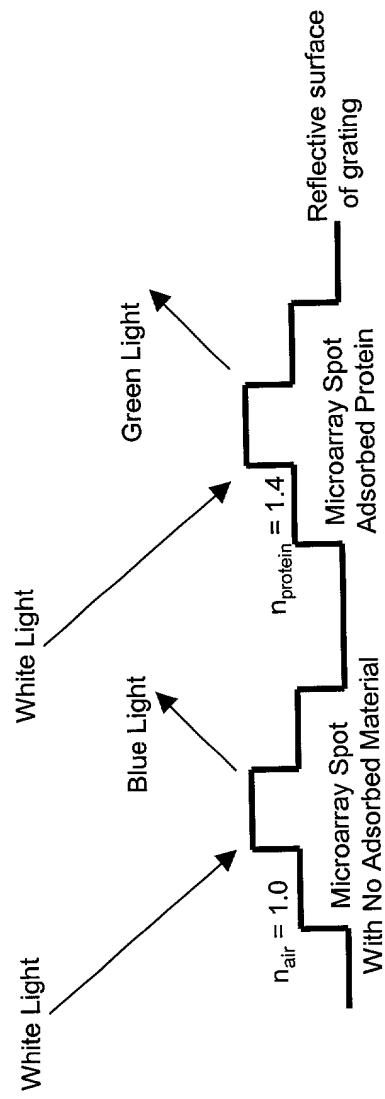


FIGURE 8



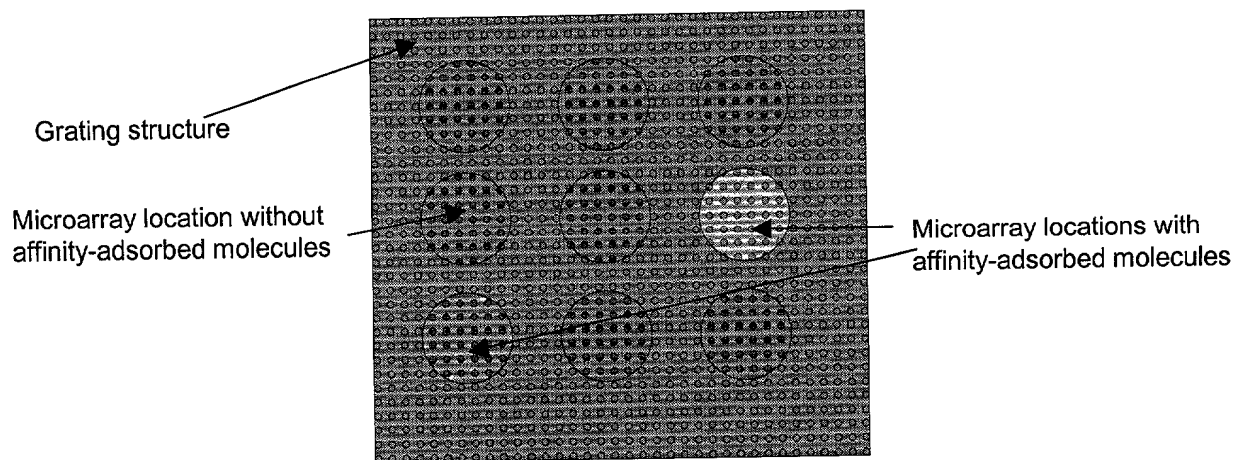


FIGURE 9

□ Microtiter plate

□ Microarray slide

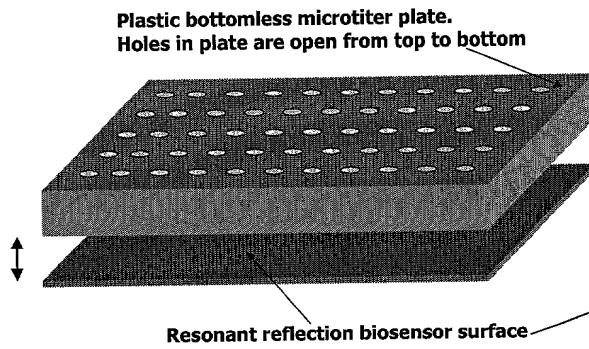


Figure 10A

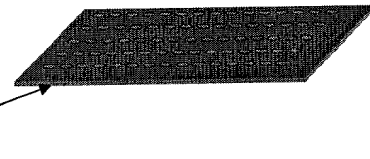


Figure 10B

Figure 10

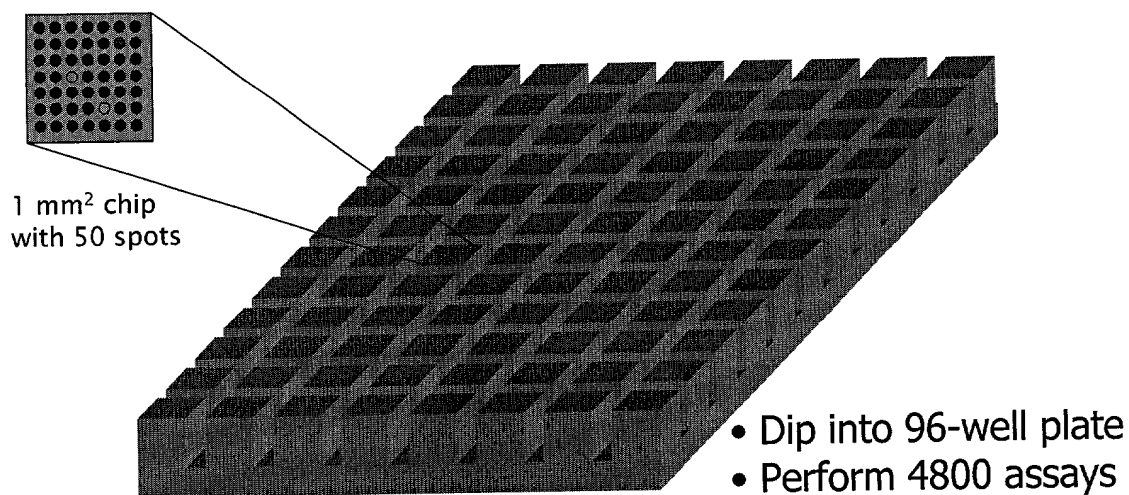
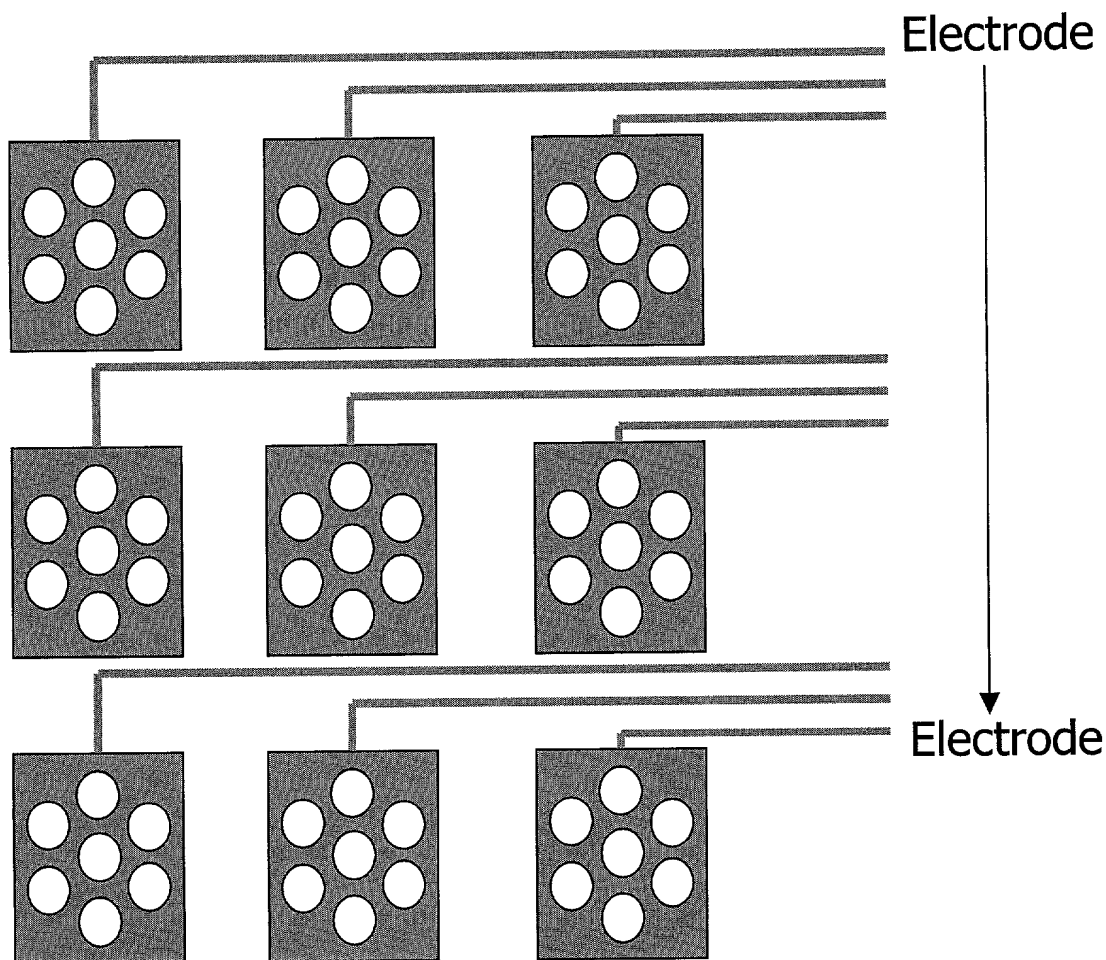


Figure 11



**FIGURE 12**



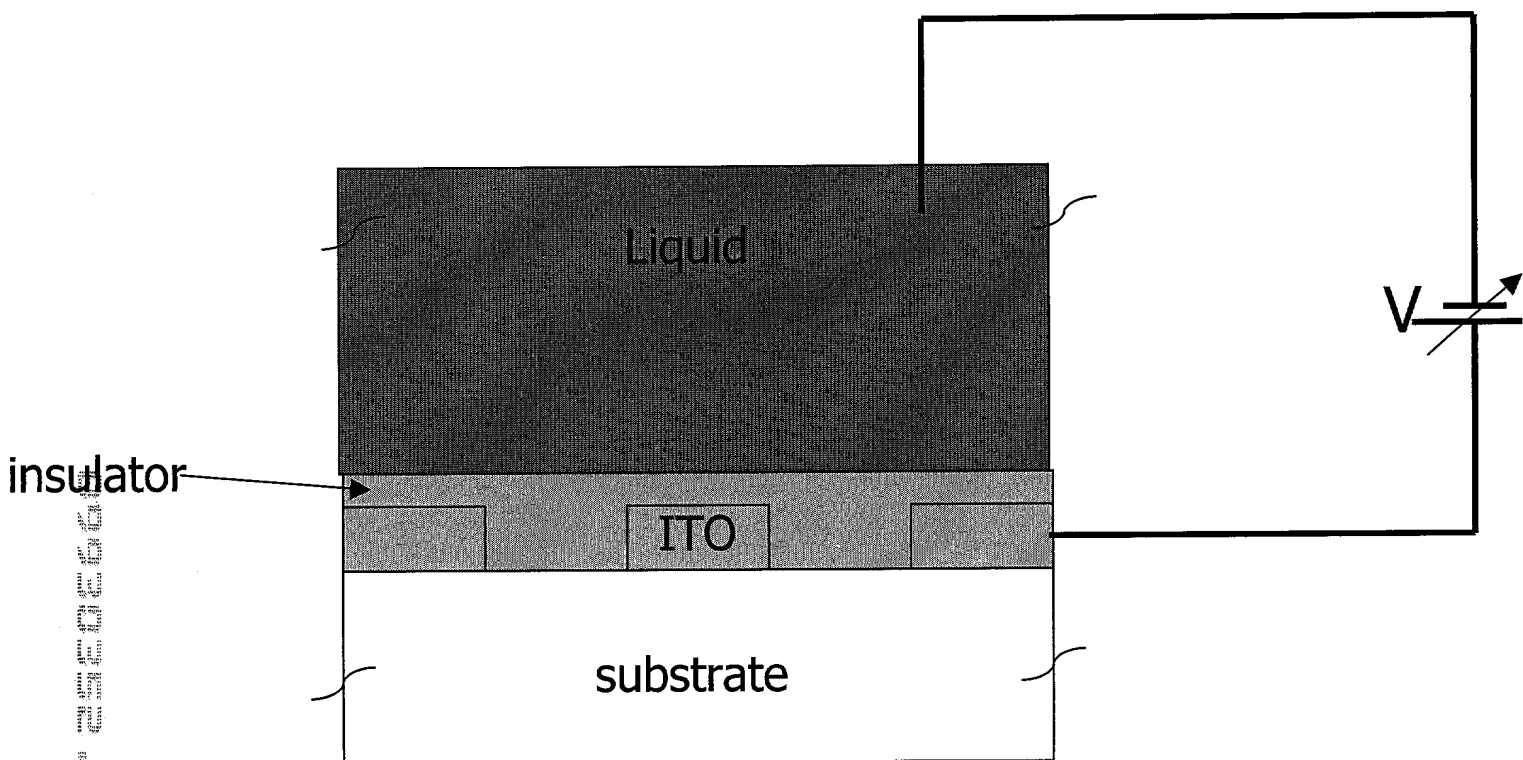


FIGURE 14

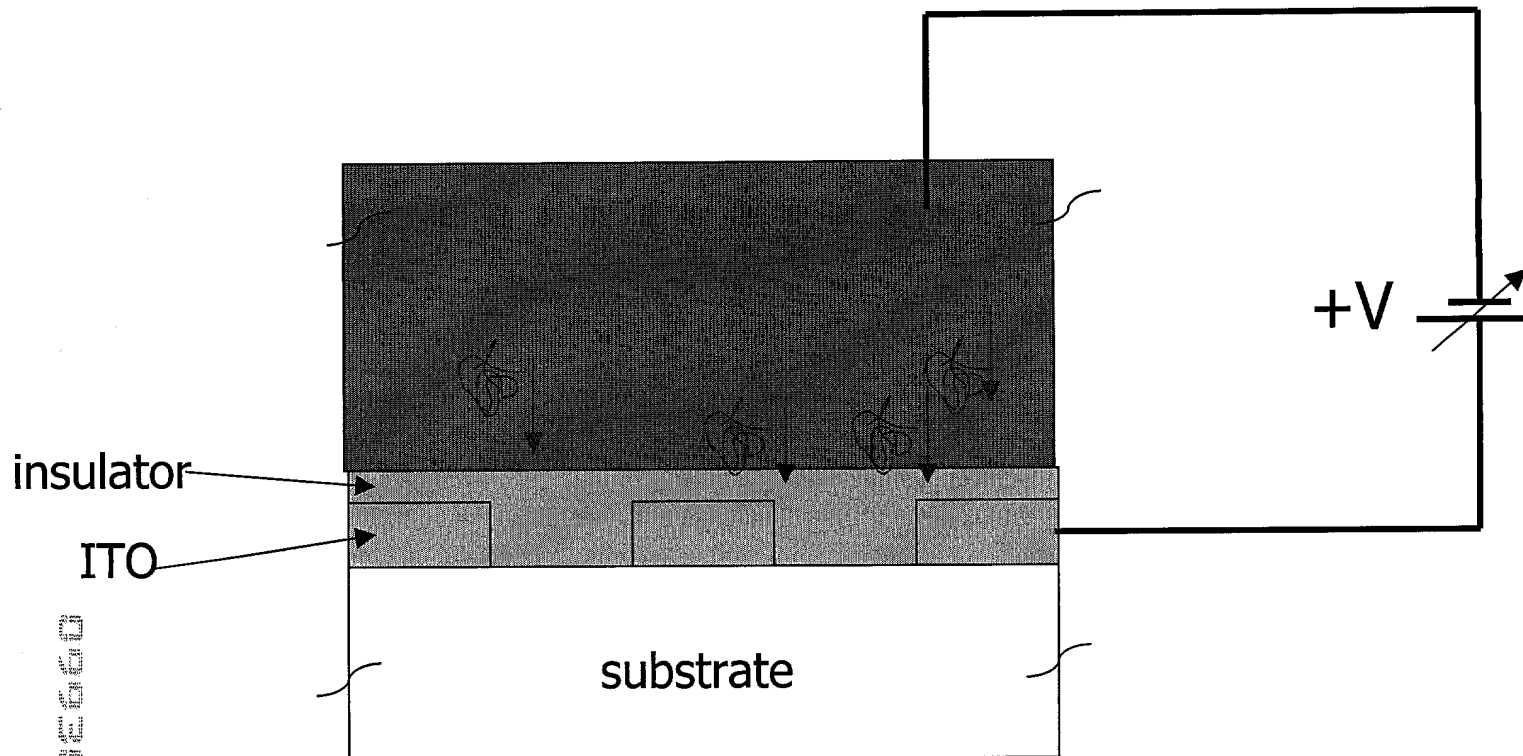


FIGURE 15

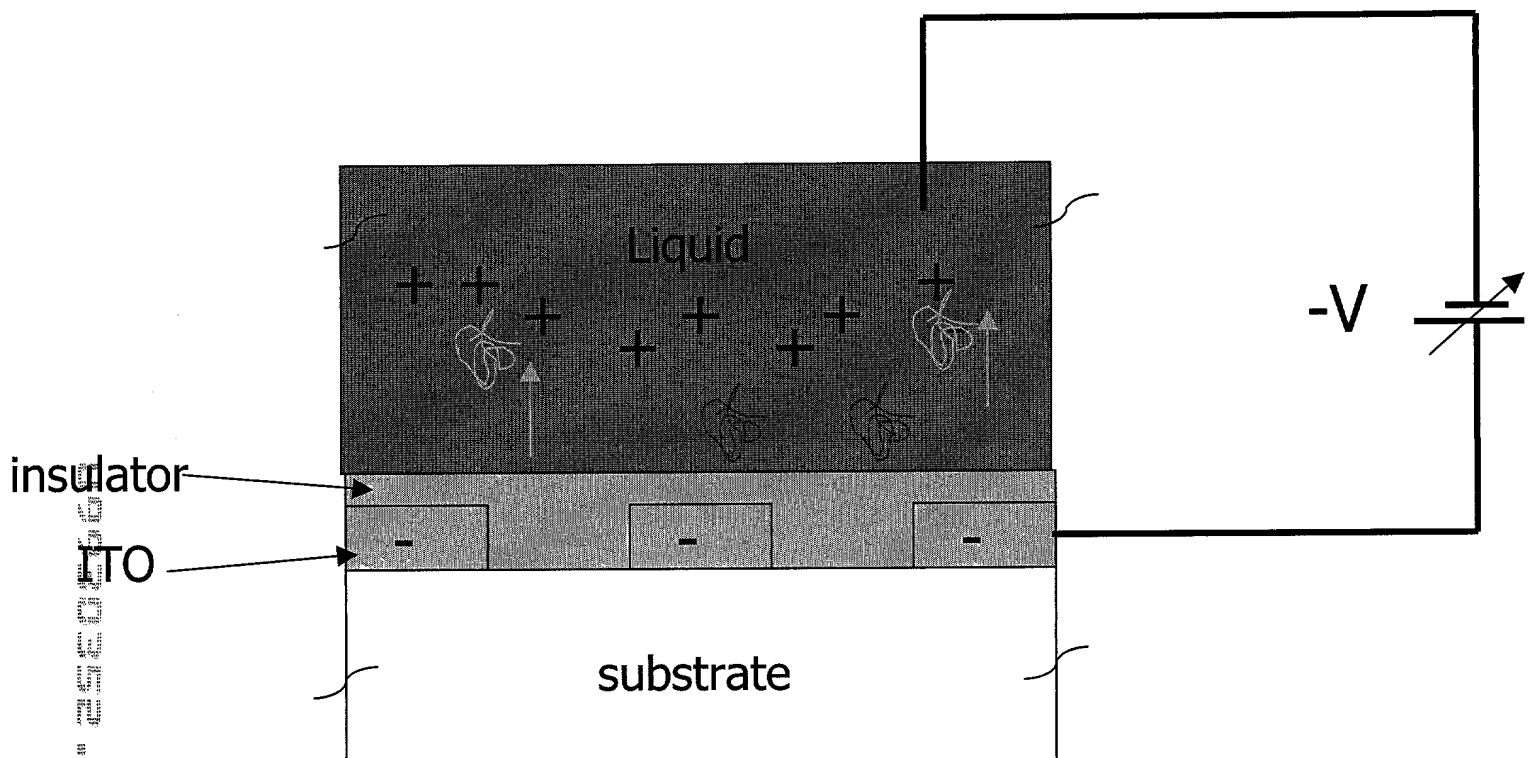


FIGURE 16



11/17/00 2:46:00

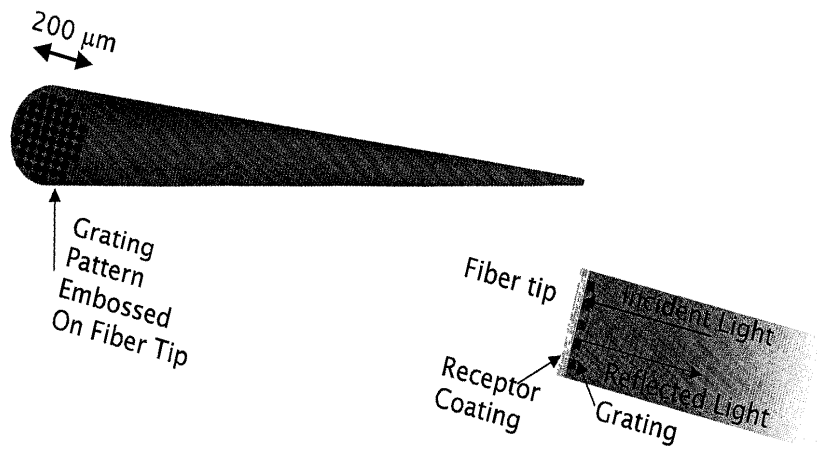


Figure 17

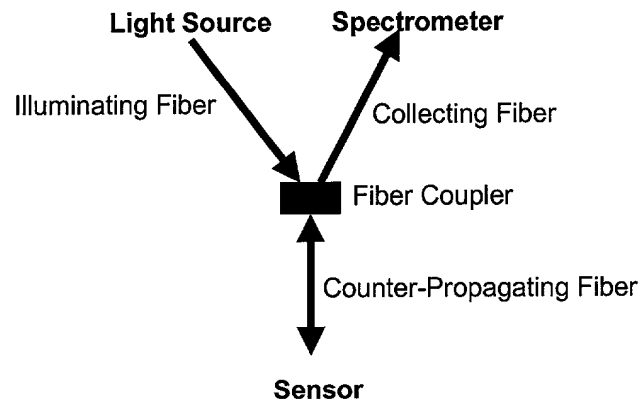


Figure 18

Peak Wavelength

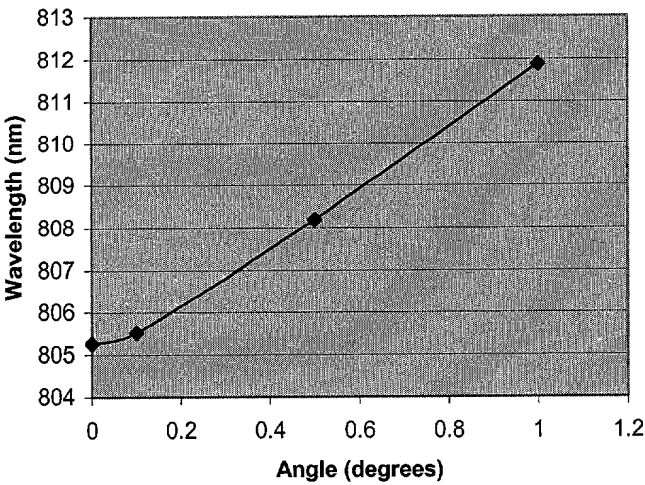


Figure 19

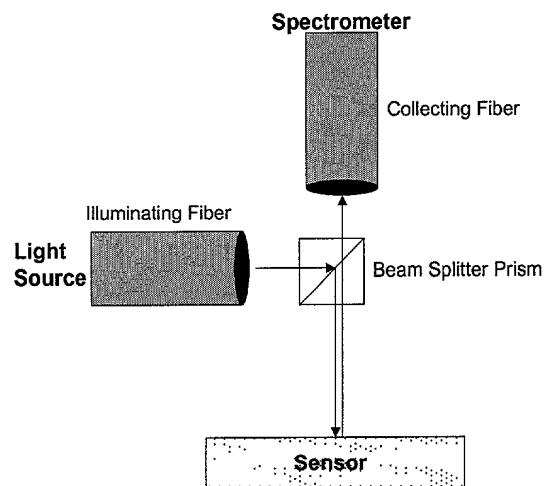


Figure 20

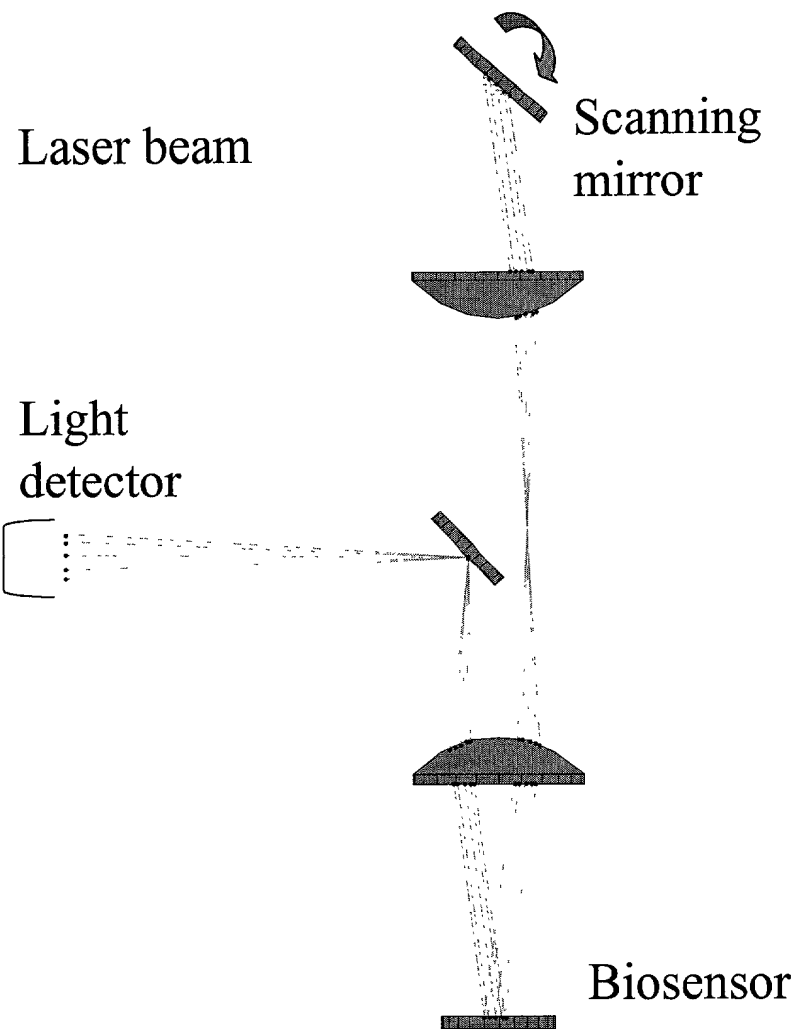


Figure 21

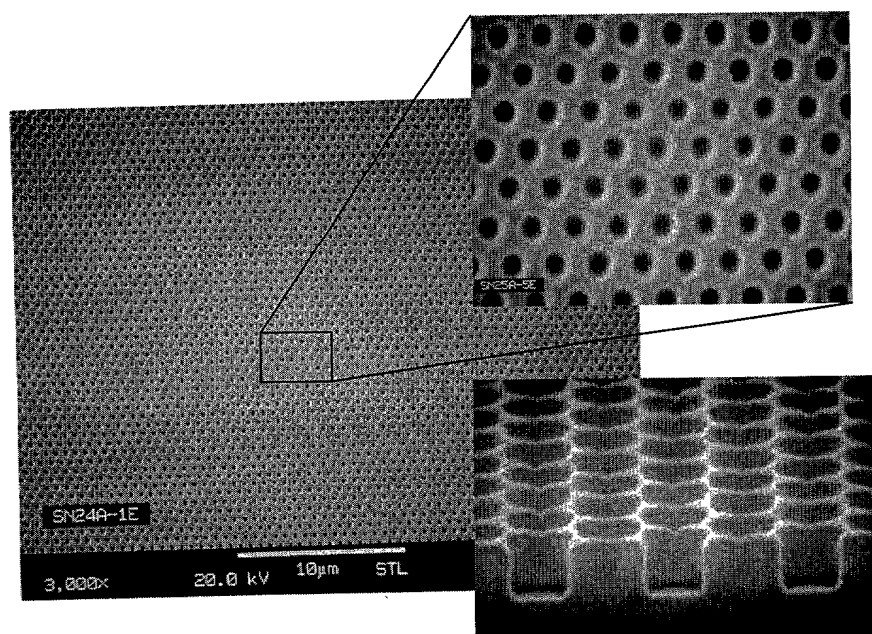


Figure 22

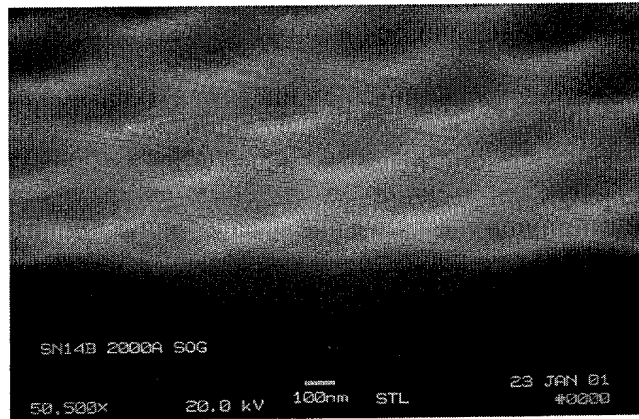


Figure 23

2000A S0G

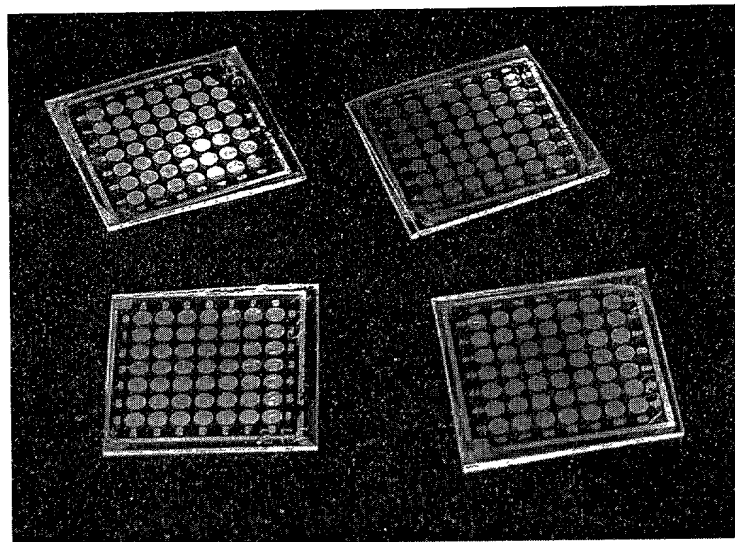


Figure 24



### Albumin Deposition on Resonant Reflector

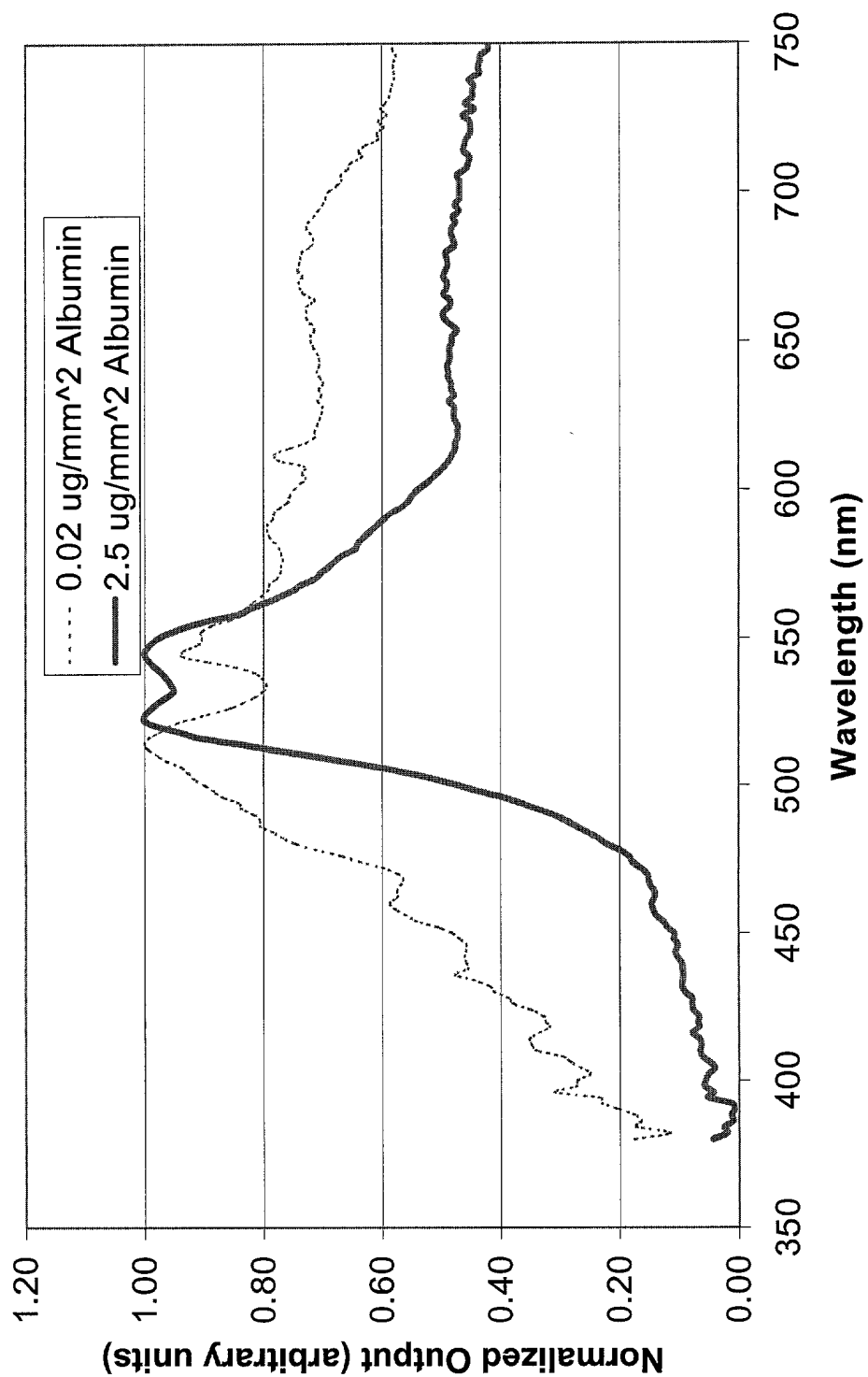


Figure 25

Figure 26

Resonant Reflector Measured in Water

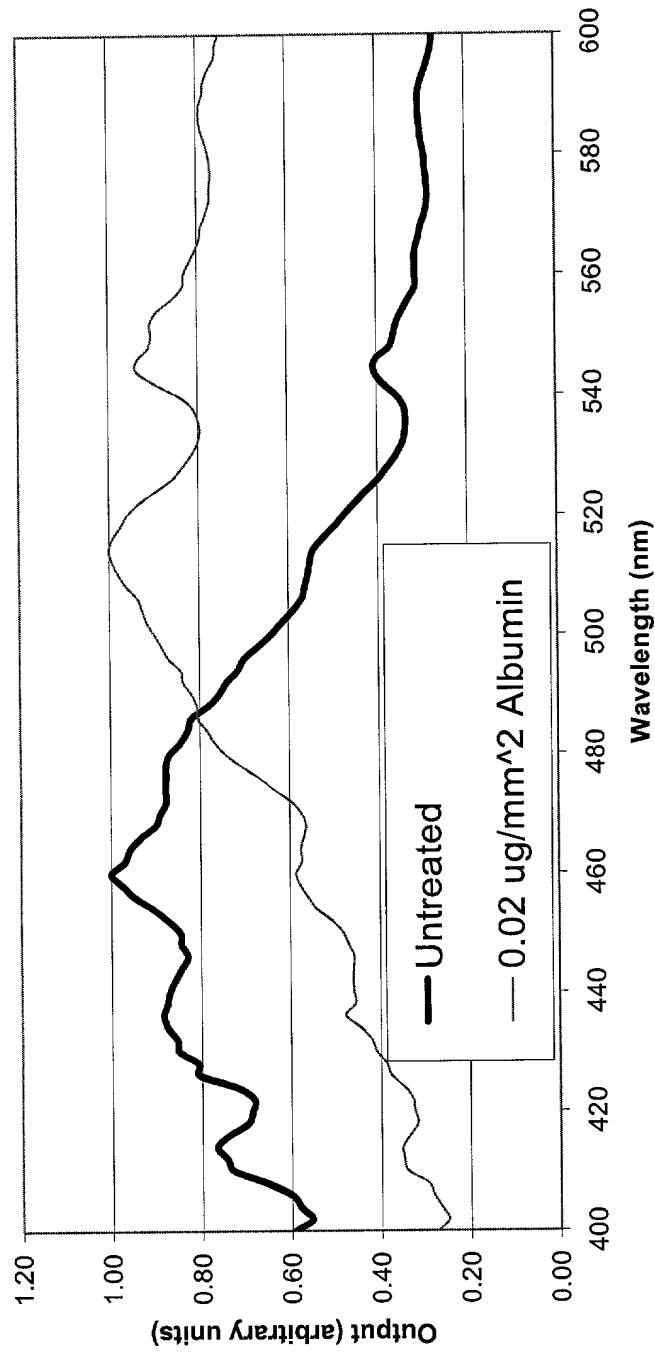


Figure 27

Bacteria immobilization on structure

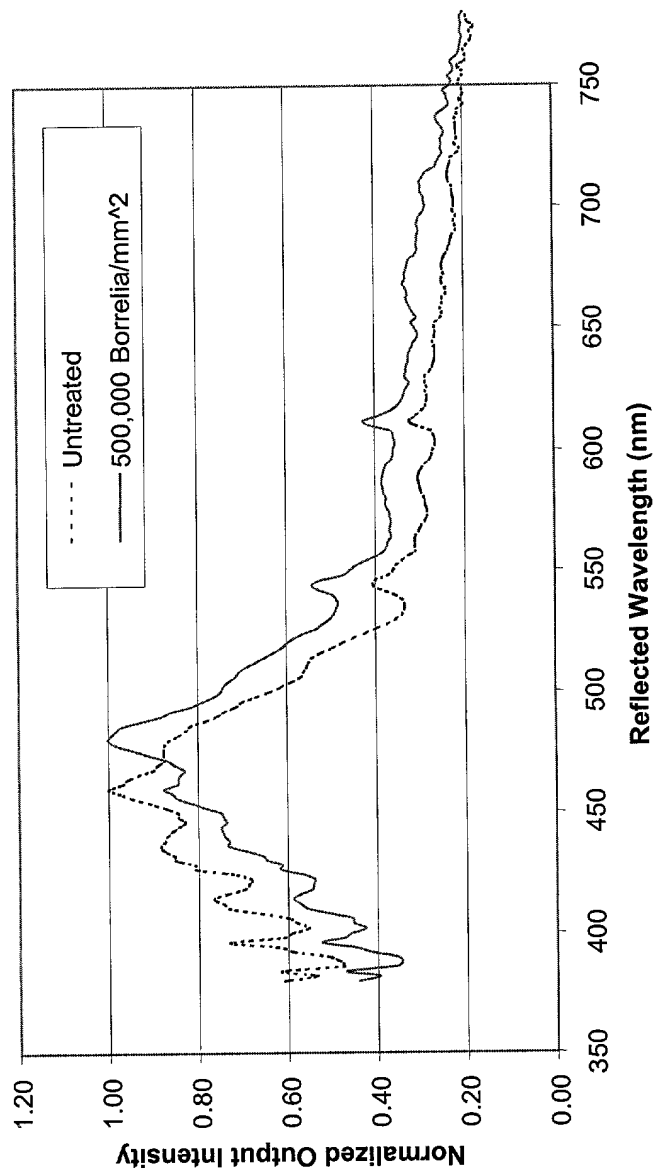


Figure 28

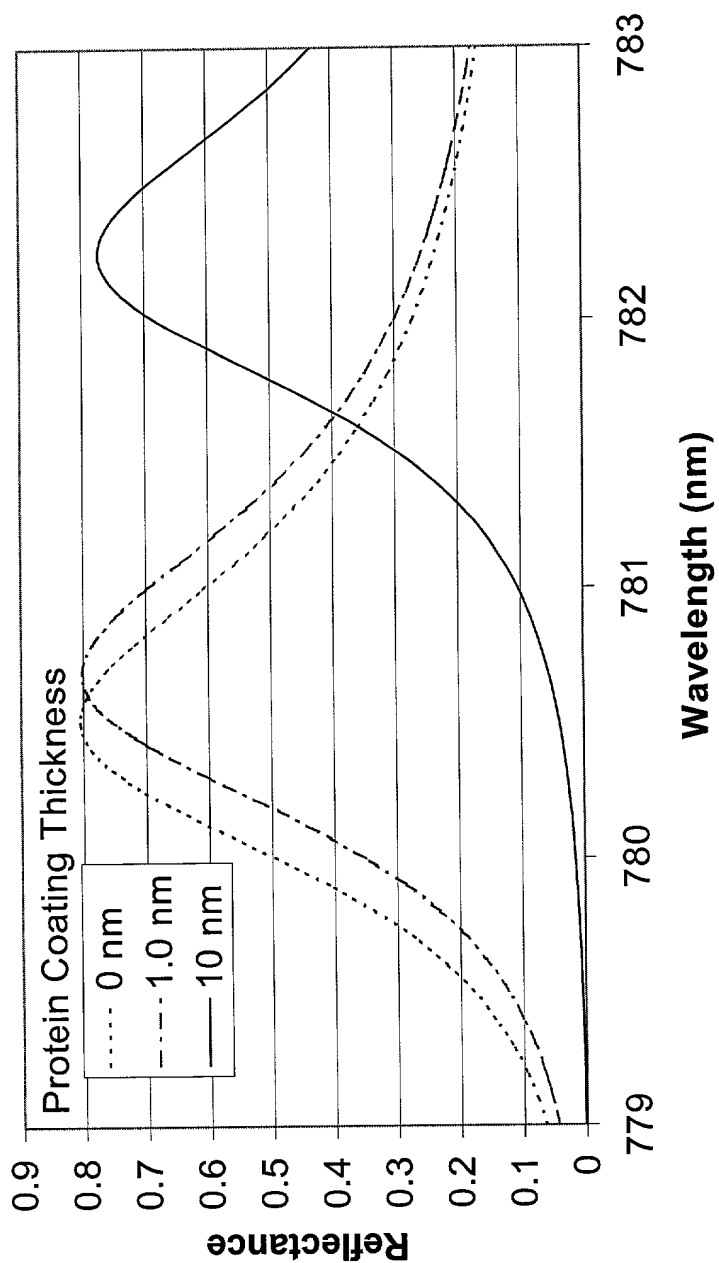
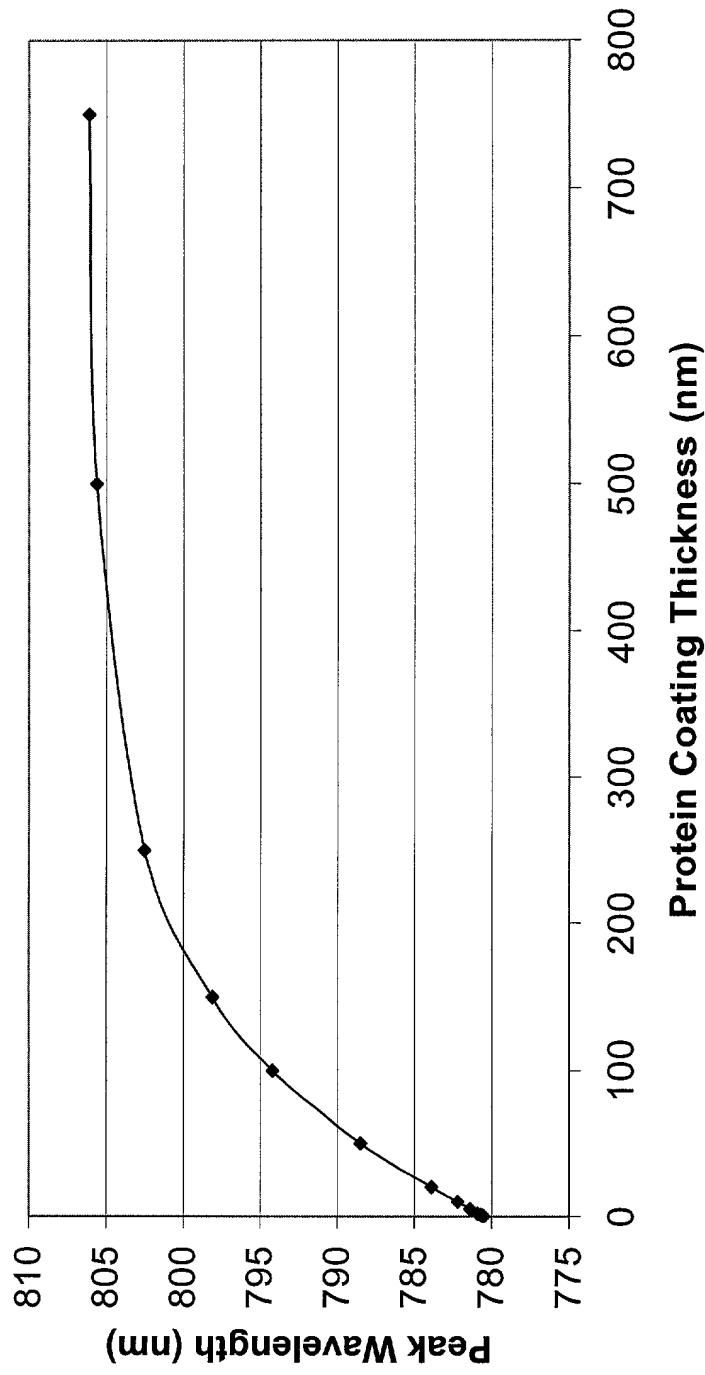


Figure 29



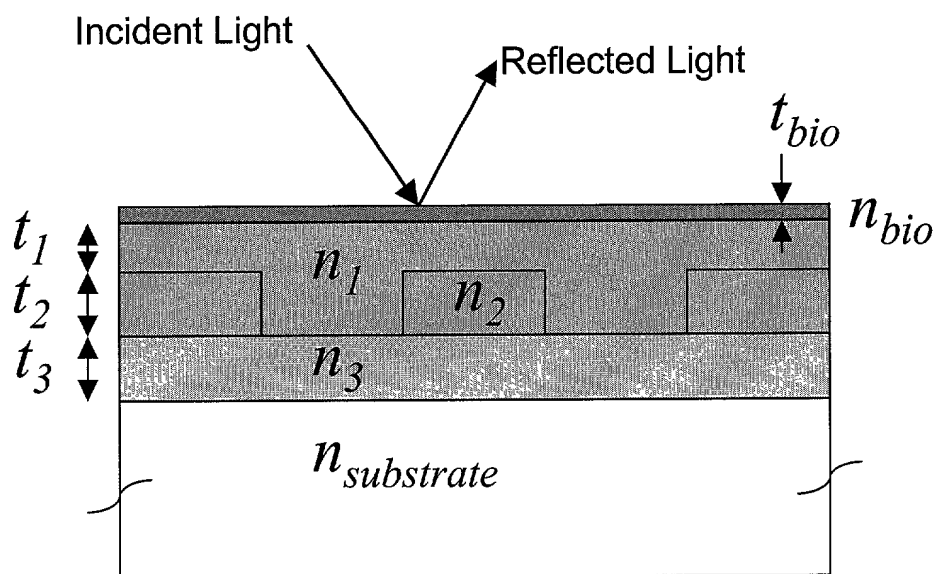


FIGURE 30

### Reflected Resonance with Deposited Protein

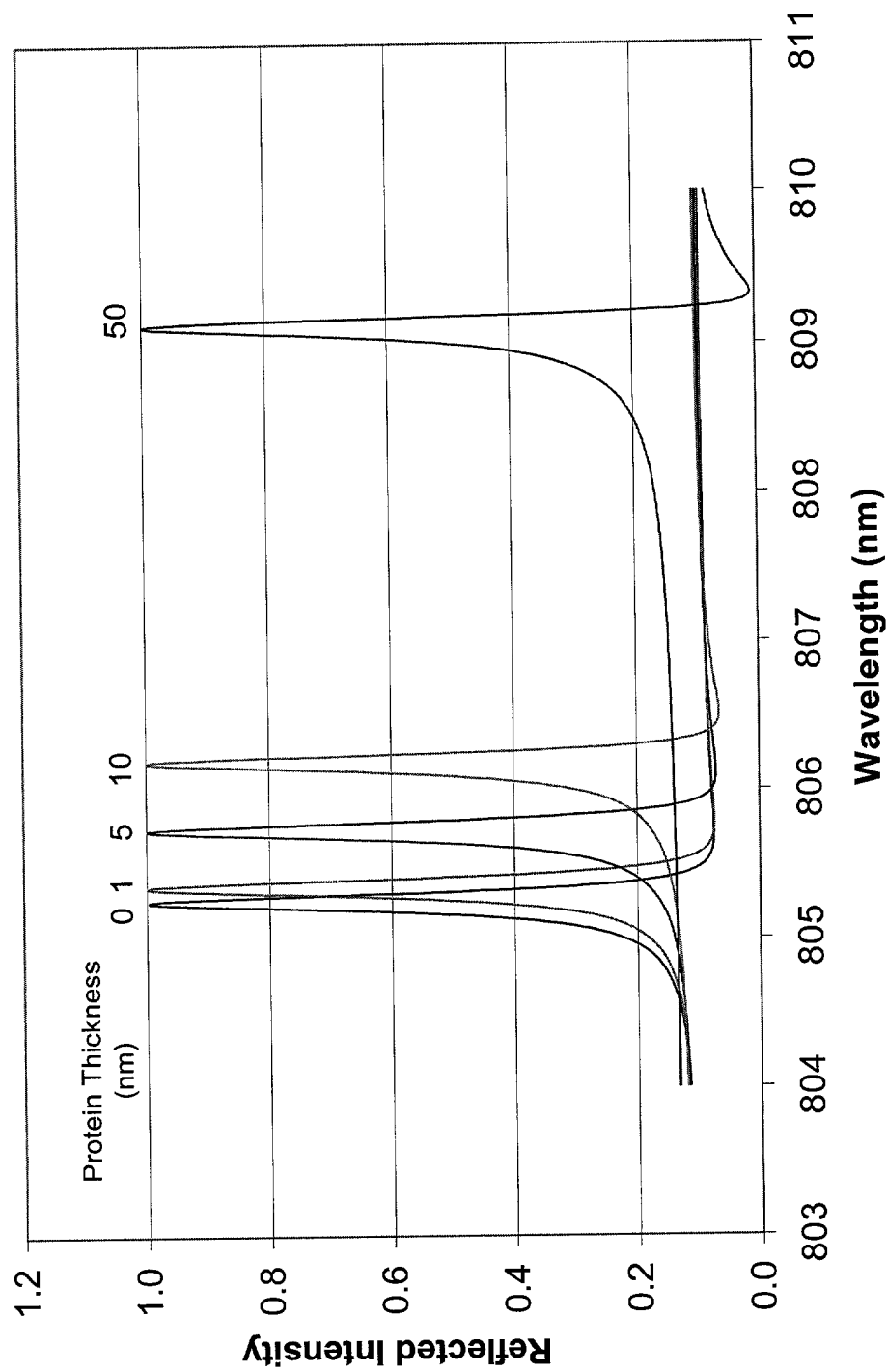


Figure 31

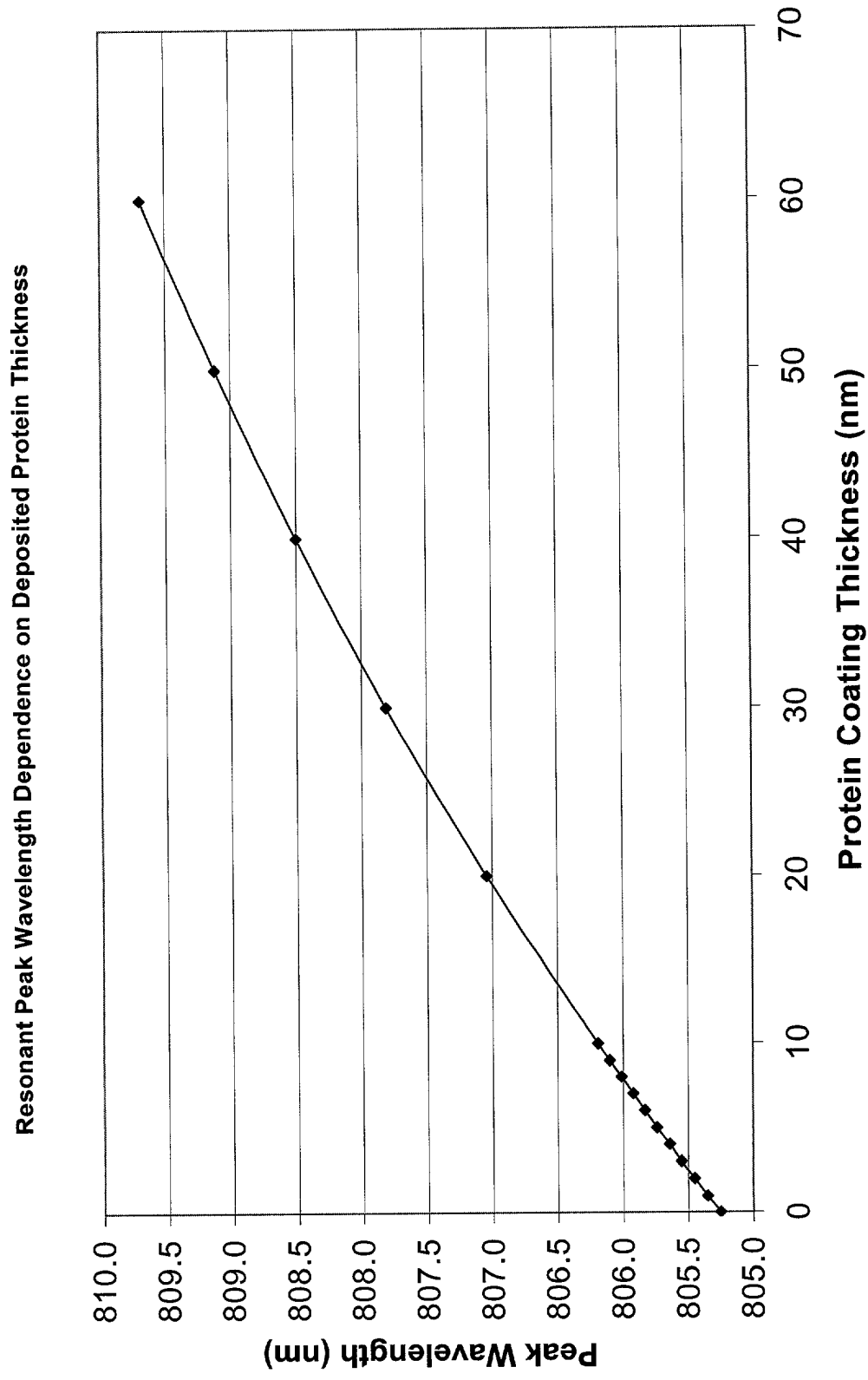


Figure 32



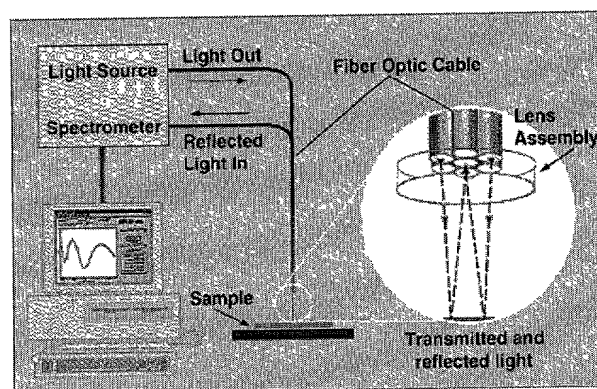


Figure 33

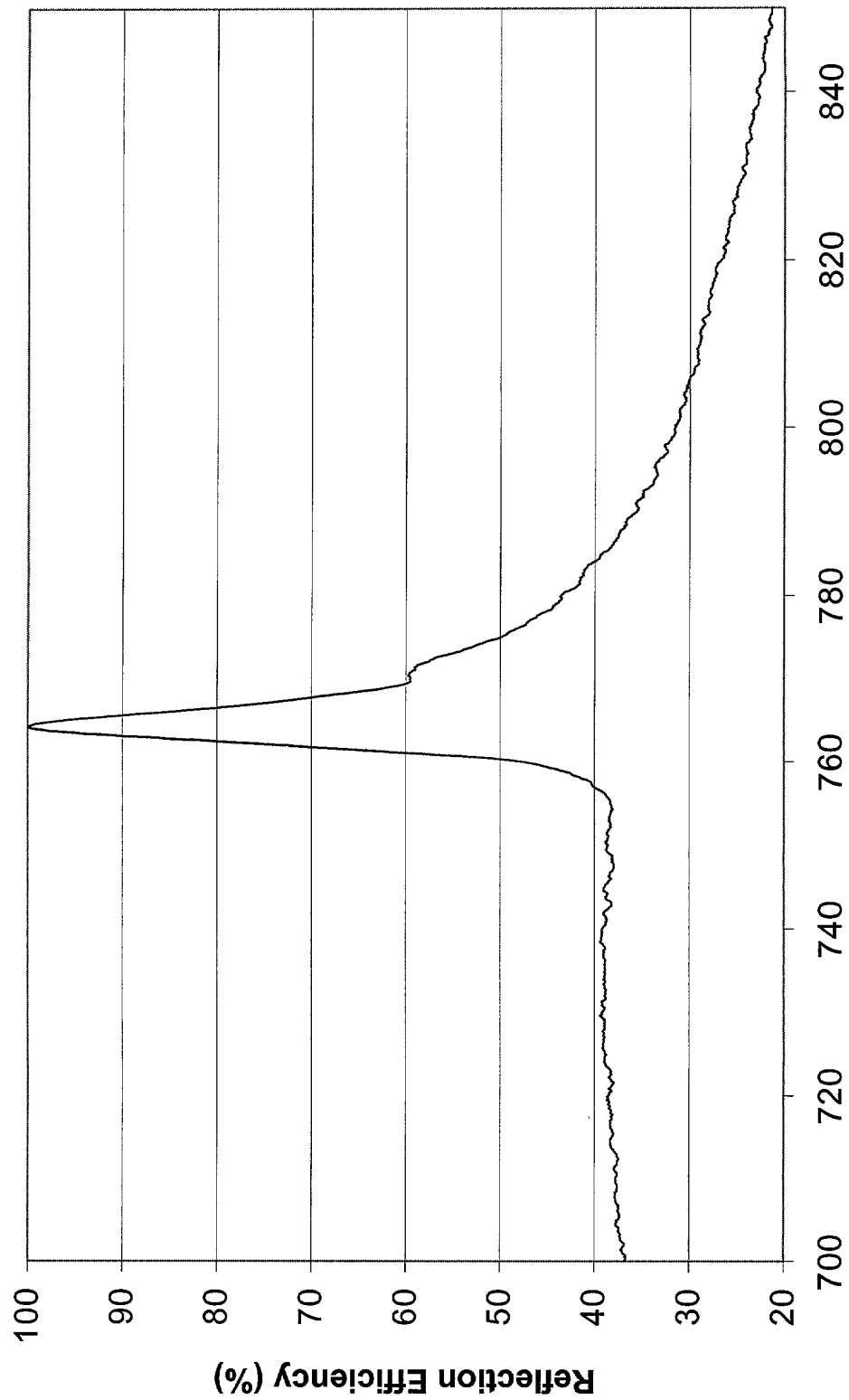


Figure 34

Figure 35

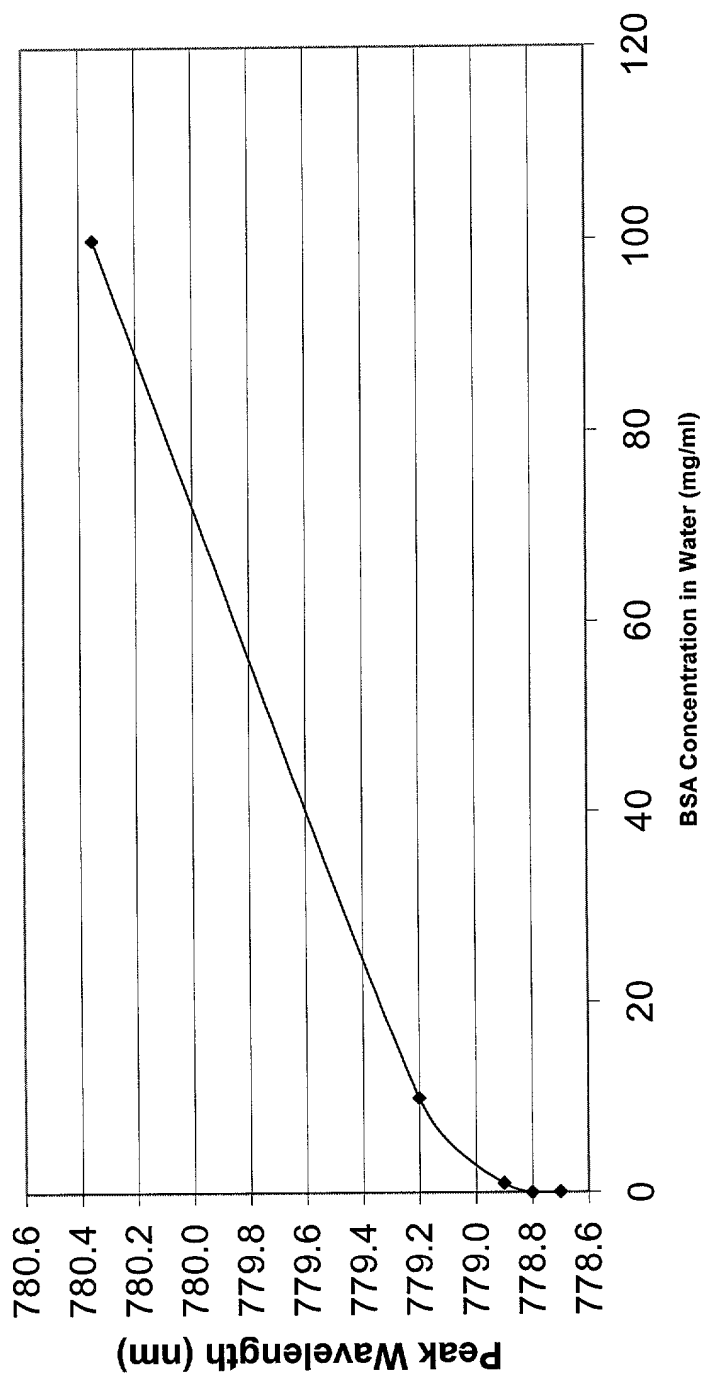


Figure 36

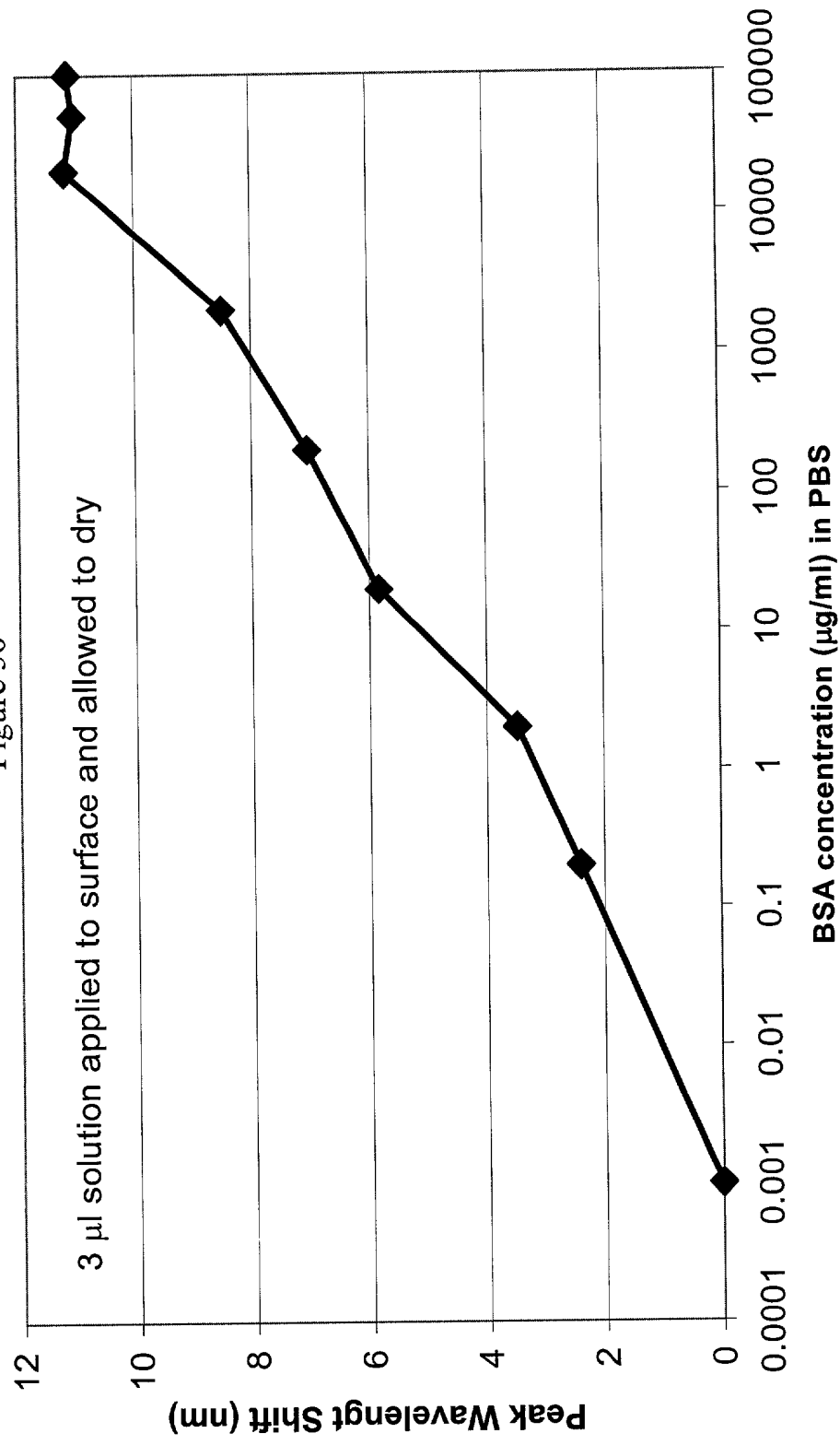


Figure 37A

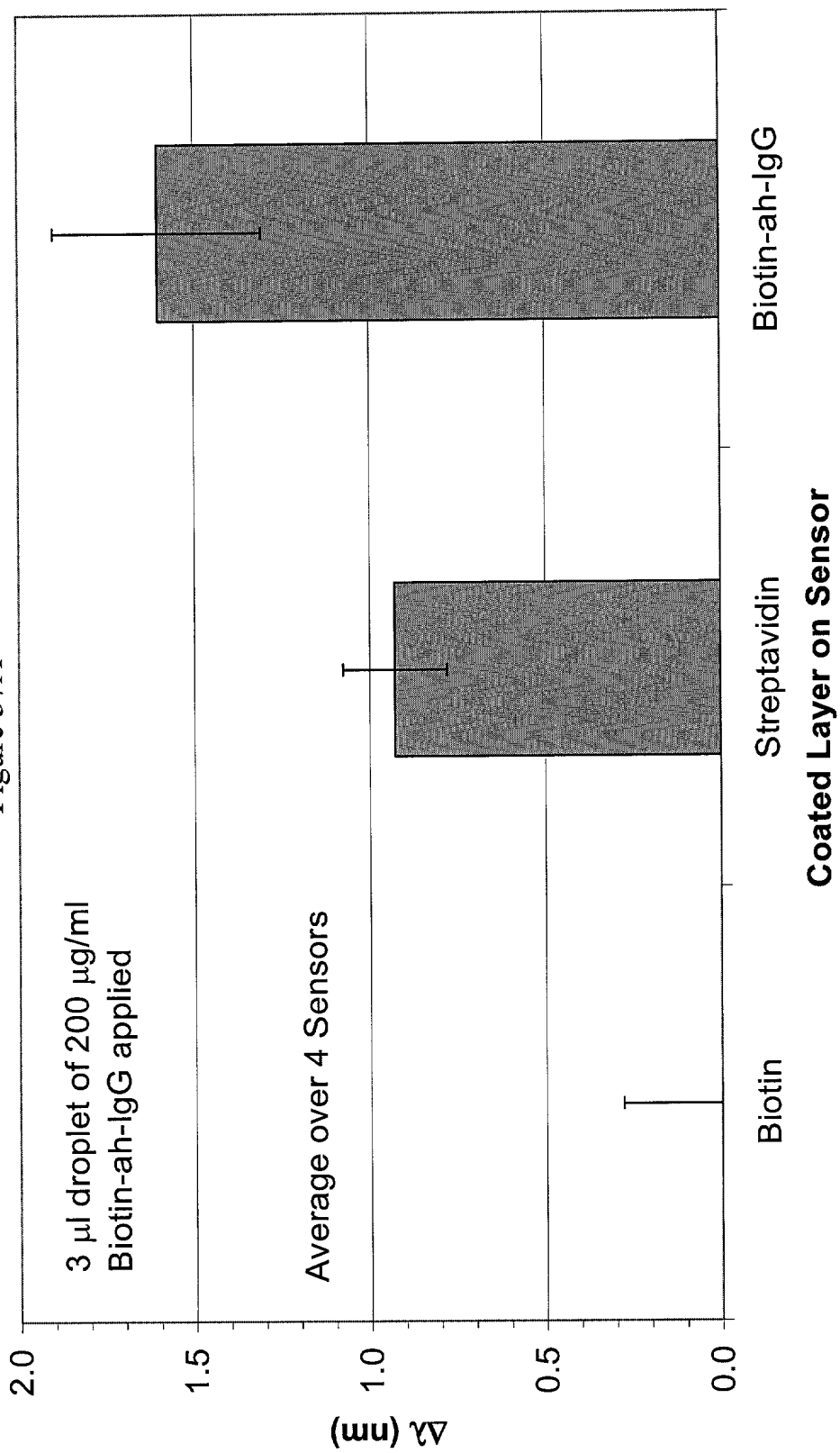
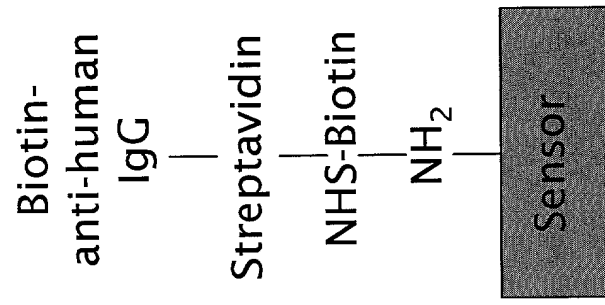


Figure 37B



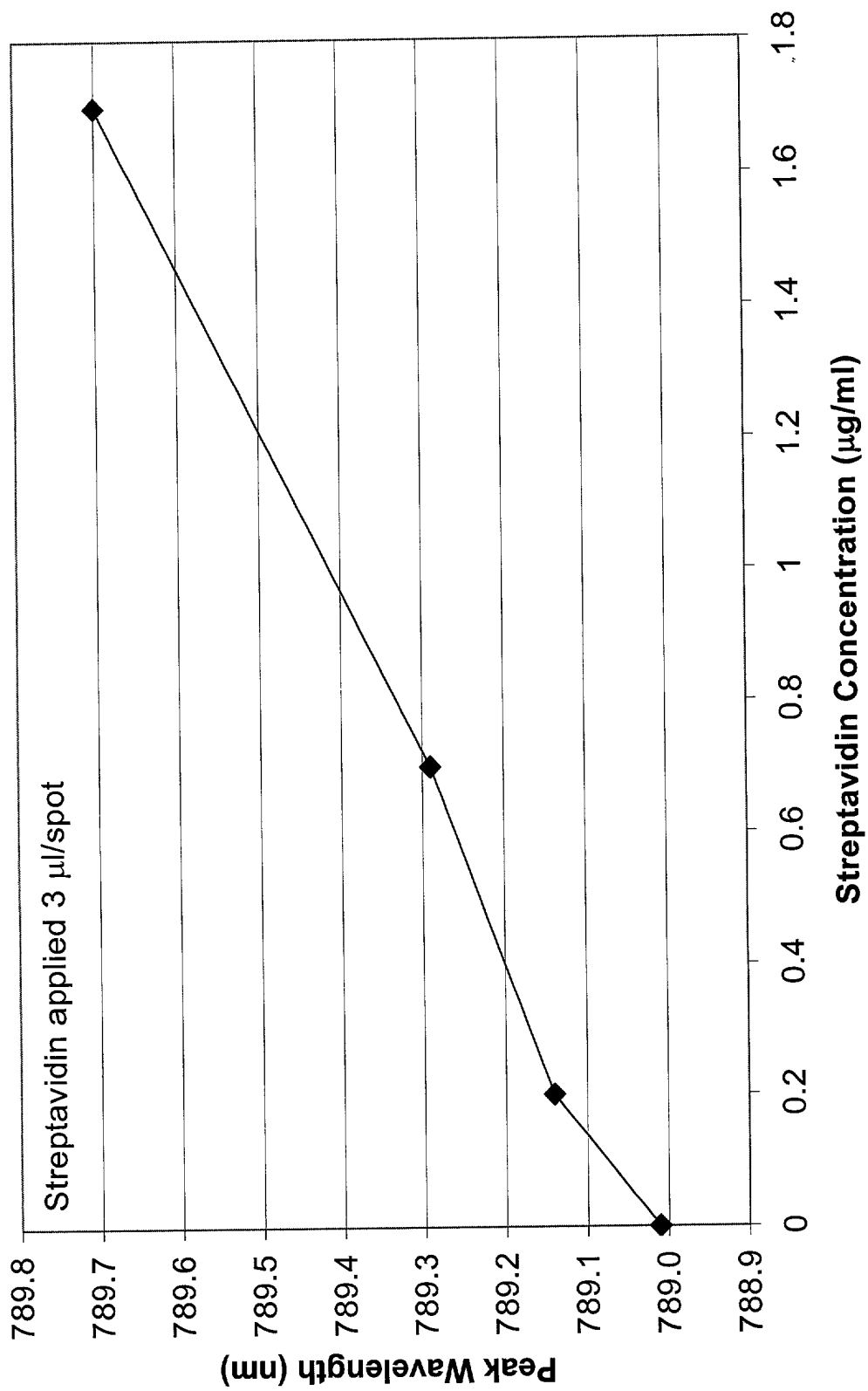
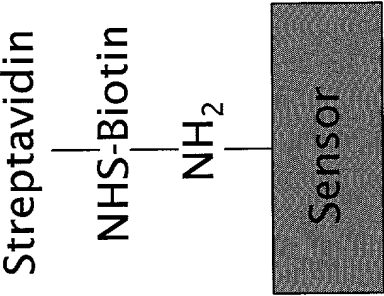


Figure 38A

Figure 38B





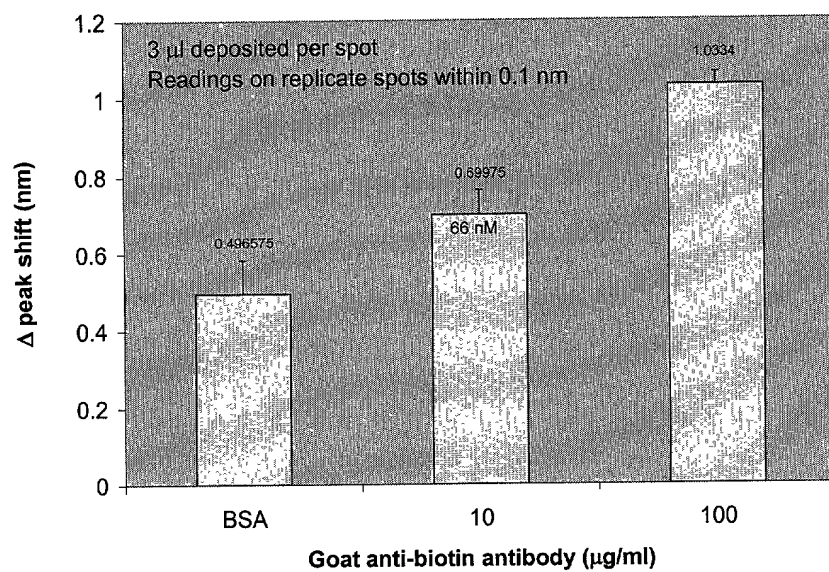


Figure 39A

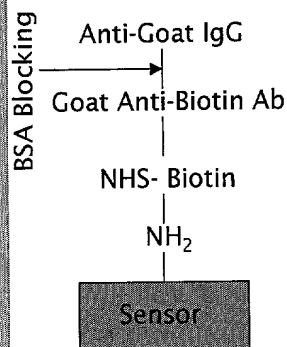


Figure 39B

Figure 39

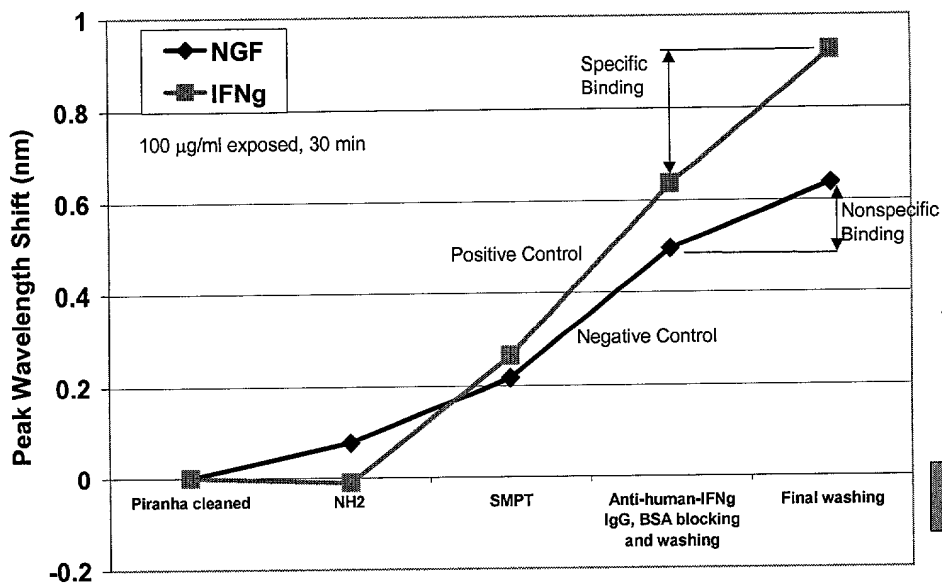


Figure 40A

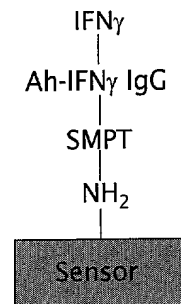


Figure 40B

Figure 40

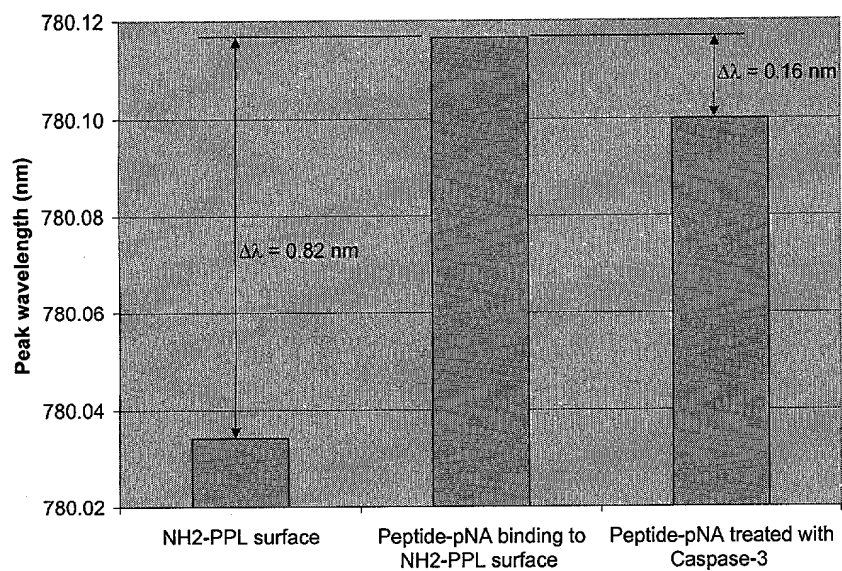


Figure 41A

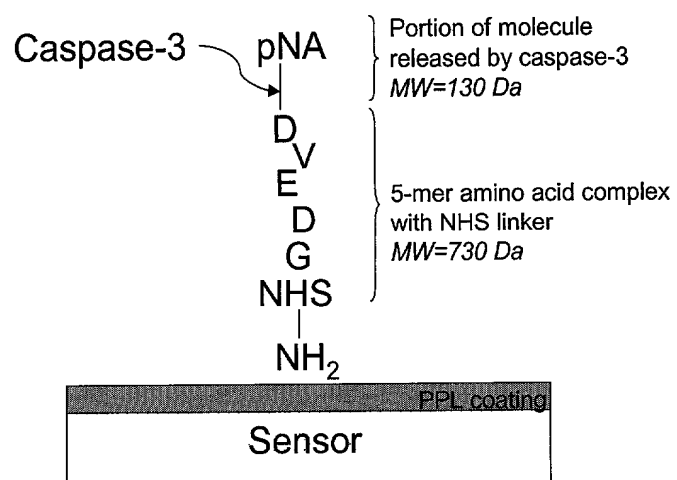
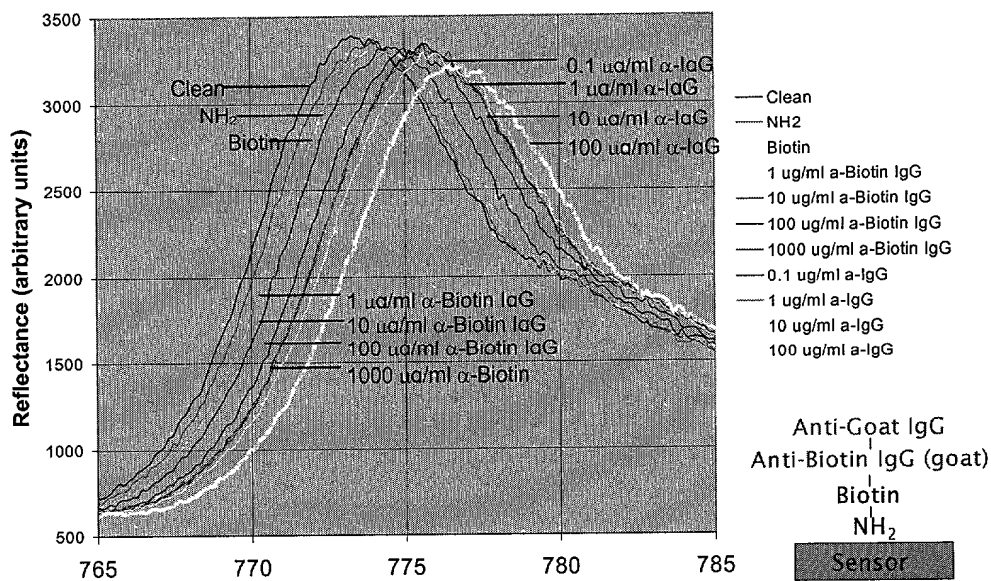


Figure 41B

Figure 41



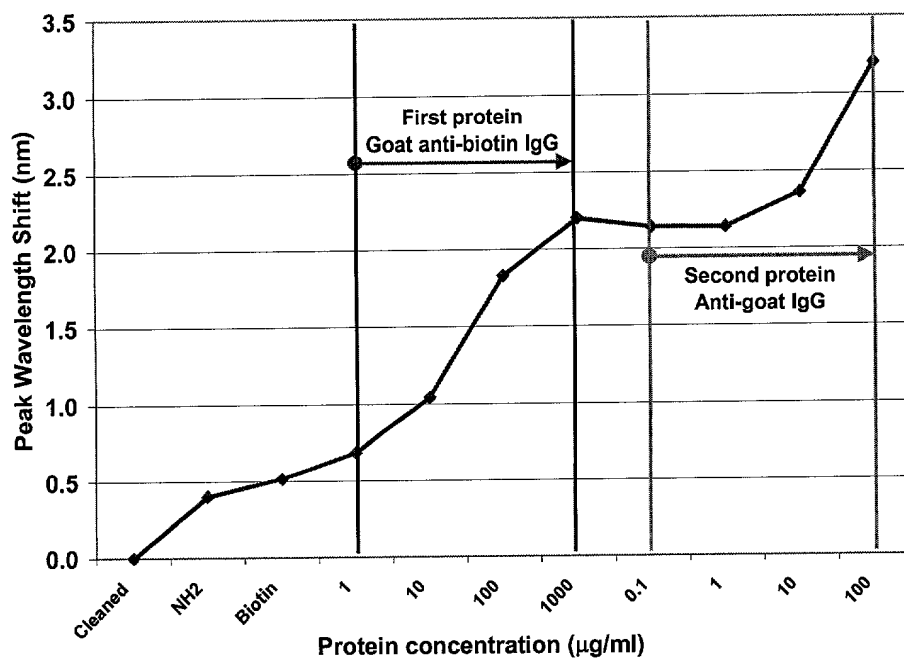


Figure 43A

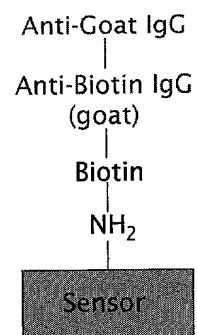


Figure 43B

Figure 43

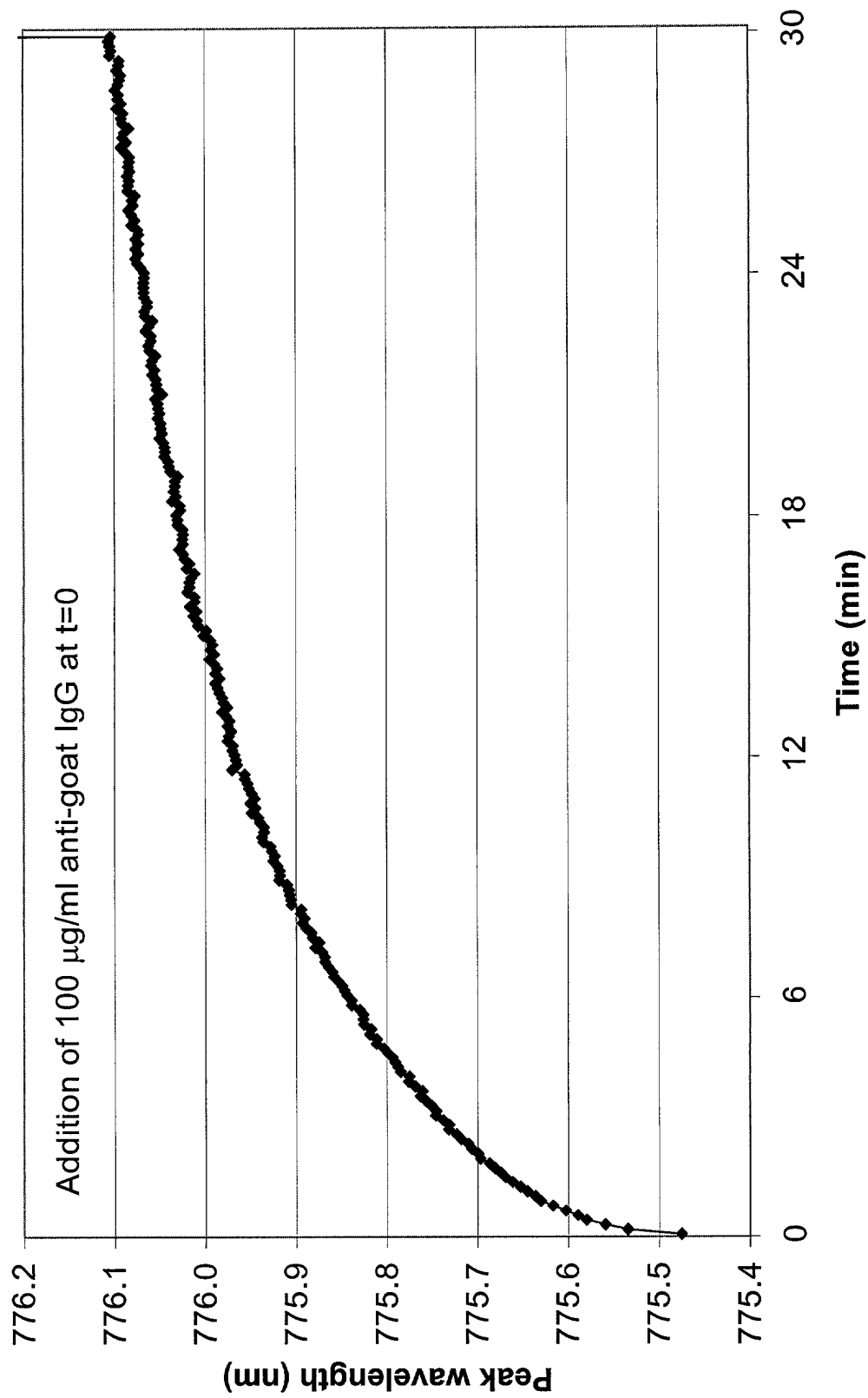
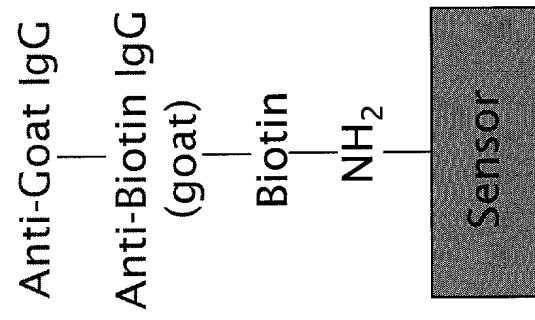


Figure 44A

Figure 44B



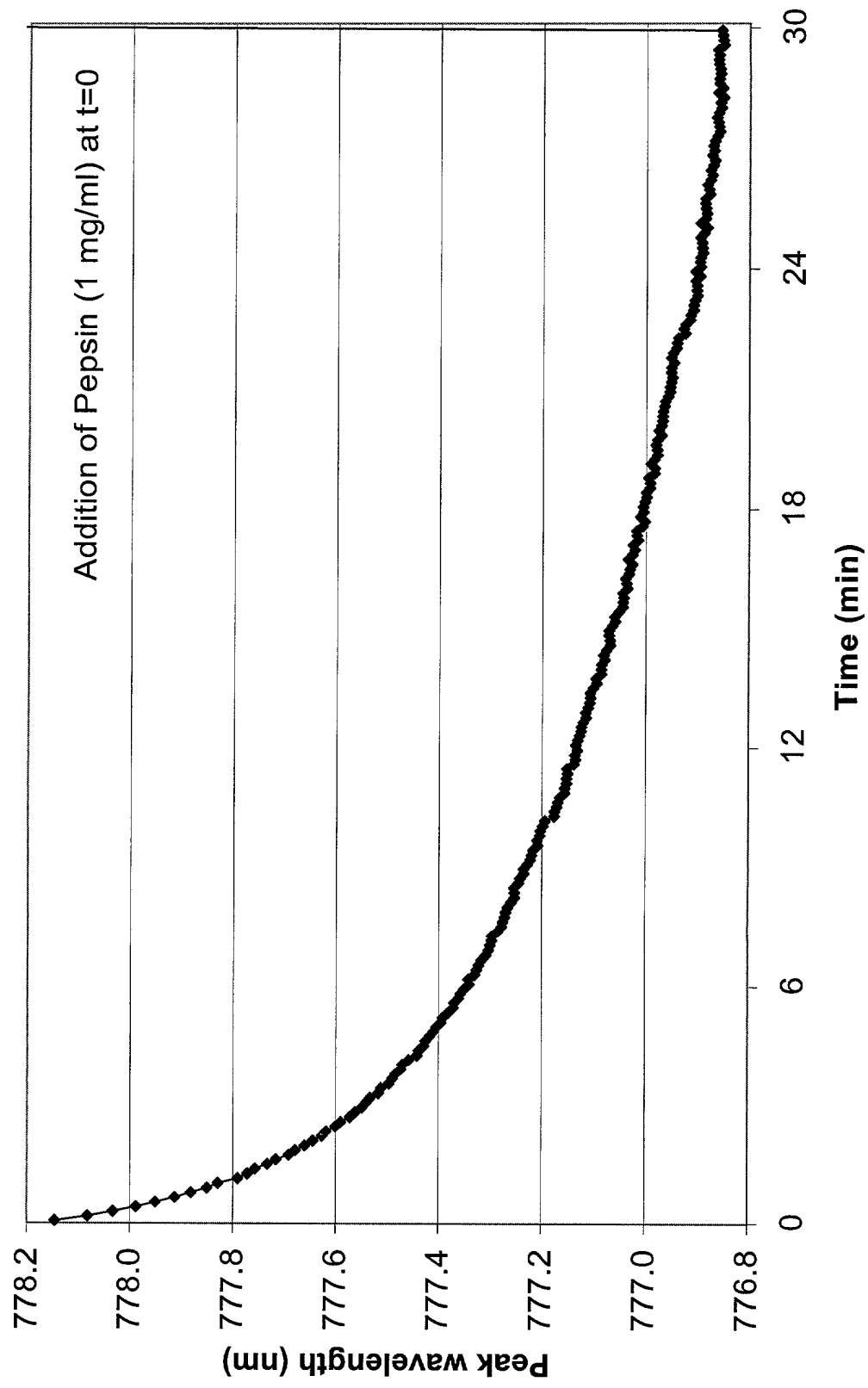
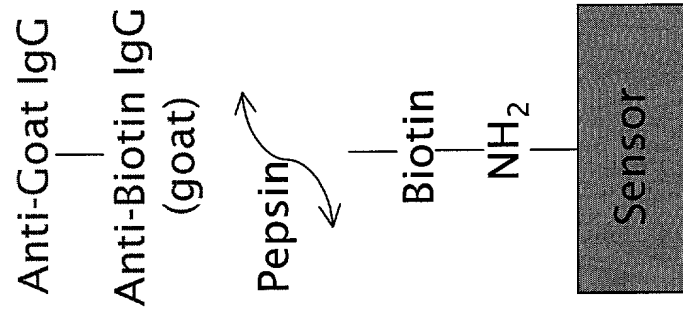


Figure 45A



Figure 45B



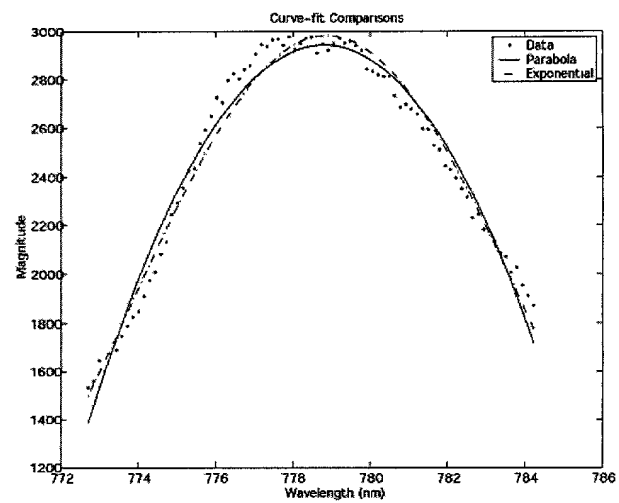


Figure 46

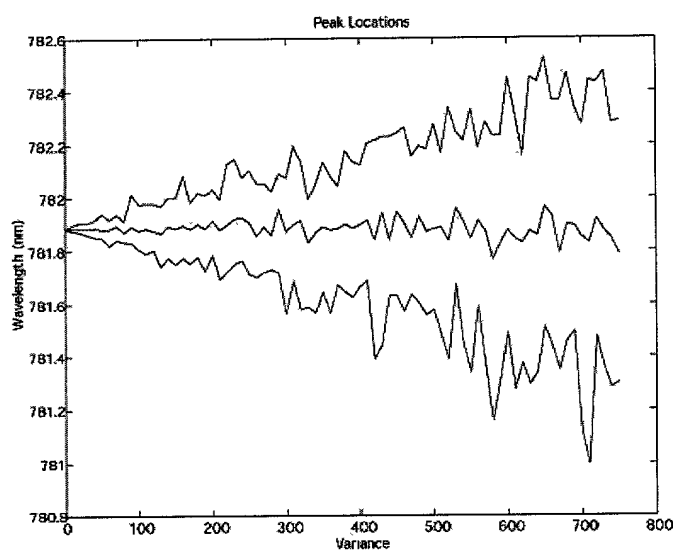
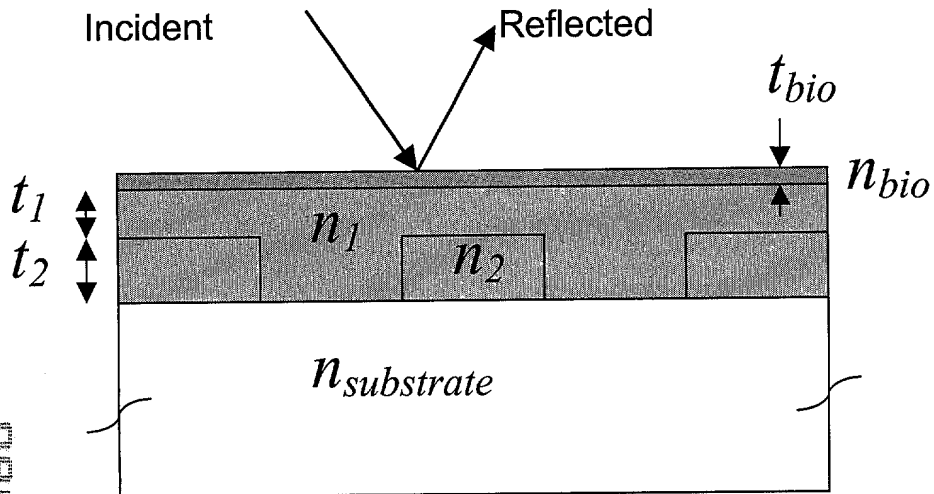


Figure 47



Material 1 = Electrical Insulator (photoresist, epoxy, glass)  
 Material 2 = Indium tin oxide conductor  
 Substrate = Glass

FIGURE 48

# Concentric Circle Design

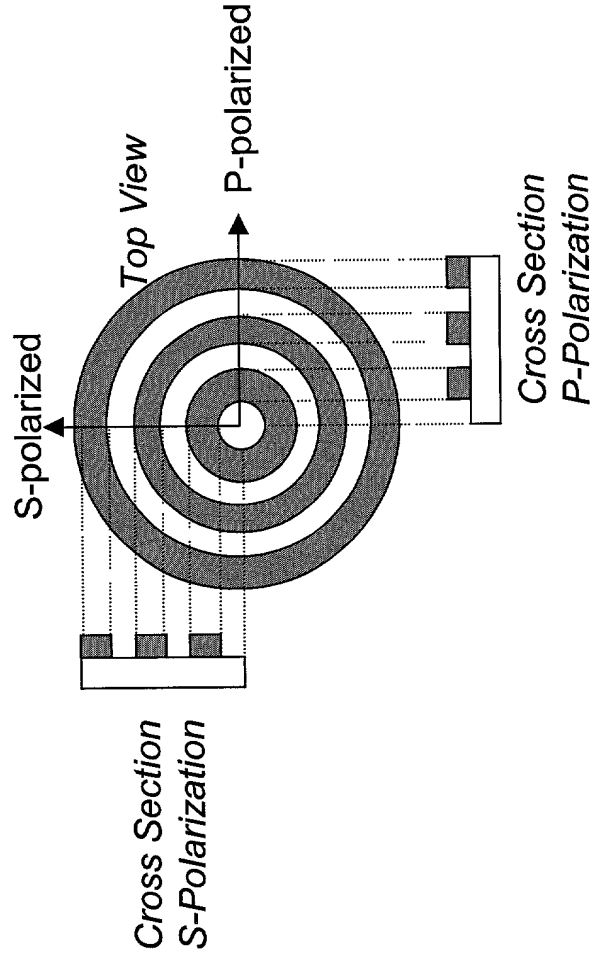


Figure 49

Figure 50  
Hexagonal Grid Design

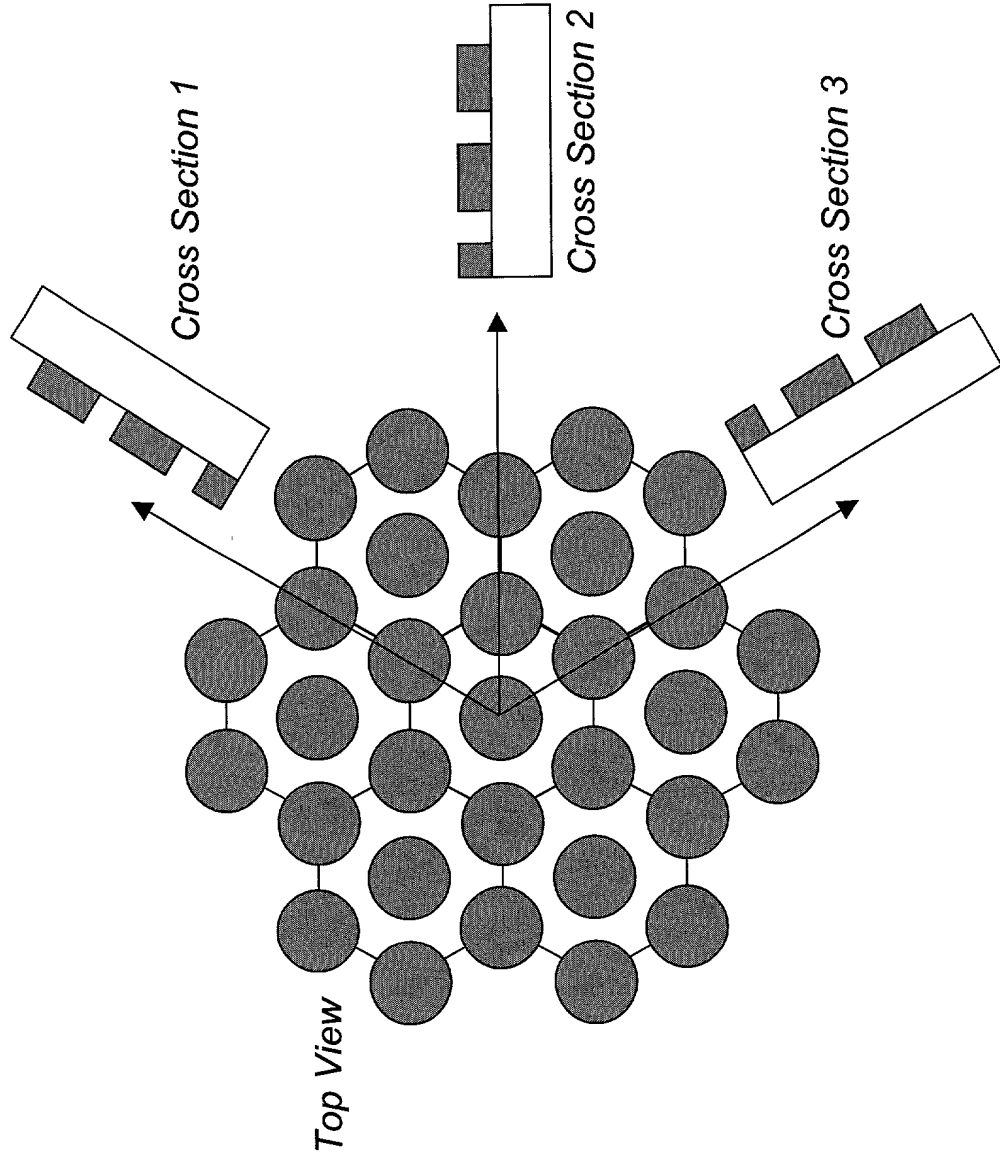


Figure 51

